

**OPPORTUNITIES AND CHALLENGES IN
DIRECT MARKETING—A VIEW FROM
THE FIELD**

HEARING
BEFORE THE
SUBCOMMITTEE ON
BIOTECHNOLOGY, HORTICULTURE, AND RESEARCH
OF THE
COMMITTEE ON AGRICULTURE
HOUSE OF REPRESENTATIVES
ONE HUNDRED FOURTEENTH CONGRESS

SECOND SESSION

FEBRUARY 2, 2016

Serial No. 114-38



Printed for the use of the Committee on Agriculture
agriculture.house.gov

U.S. GOVERNMENT PUBLISHING OFFICE

98-678 PDF

WASHINGTON : 2016

For sale by the Superintendent of Documents, U.S. Government Publishing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512-1800; DC area (202) 512-1800
Fax: (202) 512-2104 Mail: Stop IDCC, Washington, DC 20402-0001

COMMITTEE ON AGRICULTURE

K. MICHAEL CONAWAY, Texas, *Chairman*

RANDY NEUGEBAUER, Texas, <i>Vice Chairman</i>	COLLIN C. PETERSON, Minnesota, <i>Ranking Minority Member</i>
BOB GOODLATTE, Virginia	DAVID SCOTT, Georgia
FRANK D. LUCAS, Oklahoma	JIM COSTA, California
STEVE KING, Iowa	TIMOTHY J. WALZ, Minnesota
MIKE ROGERS, Alabama	MARCIA L. FUDGE, Ohio
GLENN THOMPSON, Pennsylvania	JAMES P. McGOVERN, Massachusetts
BOB GIBBS, Ohio	SUZAN K. DELBENE, Washington
AUSTIN SCOTT, Georgia	FILEMON VELA, Texas
ERIC A. "RICK" CRAWFORD, Arkansas	MICHELLE LUJAN GRISHAM, New Mexico
SCOTT DESJARLAIS, Tennessee	ANN M. KUSTER, New Hampshire
CHRISTOPHER P. GIBSON, New York	RICHARD M. NOLAN, Minnesota
VICKY HARTZLER, Missouri	CHERI BUSTOS, Illinois
DAN BENISHEK, Michigan	SEAN PATRICK MALONEY, New York
JEFF DENHAM, California	ANN KIRKPATRICK, Arizona
DOUG LAMALFA, California	PETE AGUILAR, California
RODNEY DAVIS, Illinois	STACEY E. PLASKETT, Virgin Islands
TED S. YOHO, Florida	ALMA S. ADAMS, North Carolina
JACKIE WALORSKI, Indiana	GWEN GRAHAM, Florida
RICK W. ALLEN, Georgia	BRAD ASHFORD, Nebraska
MIKE BOST, Illinois	
DAVID ROUZER, North Carolina	
RALPH LEE ABRAHAM, Louisiana	
JOHN R. MOOLENAAR, Michigan	
DAN NEWHOUSE, Washington	
TRENT KELLY, Mississippi	

SCOTT C. GRAVES, *Staff Director*

ROBERT L. LAREW, *Minority Staff Director*

SUBCOMMITTEE ON BIOTECHNOLOGY, HORTICULTURE, AND RESEARCH

RODNEY DAVIS, Illinois, *Chairman*

GLENN THOMPSON, Pennsylvania	SUZAN K. DELBENE, Washington, <i>Ranking Minority Member</i>
AUSTIN SCOTT, Georgia	MARCIA L. FUDGE, Ohio
CHRISTOPHER P. GIBSON, New York	JAMES P. McGOVERN, Massachusetts
JEFF DENHAM, California	ANN M. KUSTER, New Hampshire
TED S. YOHO, Florida	GWEN GRAHAM, Florida
JOHN R. MOOLENAAR, Michigan	
DAN NEWHOUSE, Washington	

CONTENTS

	Page
Davis, Hon. Rodney, a Representative in Congress from Illinois, opening statement	1
Prepared statement	3
DelBene, Hon. Suzan K., a Representative in Congress from Washington, opening statement	4

WITNESSES

Tonnemaker, Kurt Edward, Co-Owner, Tonnemaker Farms, Bellevue, WA	5
Prepared statement	7
Supplementary material	61
Heck, Andrew, Garden Educator, Generation Healthy Kids Coalition, Springfield, IL	18
Prepared statement	20
Coffin, J.D., Clarissa “Cris”, Policy Director, Land for Good, Keene, NH	24
Prepared statement	25
McCloskey, D.V.M., Michael J., Co-Founder, Fair Oaks Farms; Chief Executive Officer, Select Milk Producers, Fair Oaks, IN	29
Prepared statement	31
McMicken, John, Chief Executive Officer, Evergreen Cooperative Corporation, Cleveland, OH	32
Prepared statement	34
Eilers, Joshua W., Owner, Ranger Cattle LLC, Austin, TX	36
Prepared statement	38

**OPPORTUNITIES AND CHALLENGES IN
DIRECT MARKETING—A VIEW FROM
THE FIELD**

TUESDAY, FEBRUARY 2, 2016

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON BIOTECHNOLOGY, HORTICULTURE, AND
RESEARCH,
COMMITTEE ON AGRICULTURE,
Washington, D.C.

The Subcommittee met, pursuant to other business, at 10:00 a.m., in Room 1300 of the Longworth House Office Building, Hon. Rodney Davis [Chairman of the Subcommittee] presiding.

Members present: Representatives Davis, Yoho, Newhouse, DelBene, McGovern, Kuster, Graham, and Peterson (*ex officio*).

Staff present: John Goldberg, Mary Nowak, Patricia Straughn, Faisal Siddiqui, John Konya, Keith Jones, Mary Knigge, and Nicole Scott.

**OPENING STATEMENT OF HON. RODNEY DAVIS, A
REPRESENTATIVE IN CONGRESS FROM ILLINOIS**

The CHAIRMAN. This hearing of the Subcommittee on Biotechnology, Horticulture, and Research on opportunities and challenges in direct marketing: a view from the field, will come to order.

I really appreciate the witnesses being here today. We will go ahead and offer our opening statements, and move into your testimony.

So good morning and welcome. Today, we will hear from producers involved in direct marketing ventures, such as local farmers' markets, direct to restaurant or grocery store sales, value-added sales, and community supported agriculture.

Entrepreneurial efforts of individual producers certainly drives success in direct marketing ventures. Nevertheless, as producers seek to develop new marketing channels for their products, it is important for the Subcommittee to get their perspective on the opportunities they see, the challenges they encounter, and what programs can help facilitate further development of these alternative marketing channels.

As many of you are aware, the Agriculture Committee has engaged in considerable oversight and legislative effort regarding issues pertaining to marketing agricultural products. Direct marketing is enjoying a resurgence, driven both by economic considerations, as well as the desire among consumers for better relation-

ships with those involved in food production. An evaluation of Census data comparing 2007 to 2012 figures shows steady increase in producer participation in each type of alternative marketing channels.

Clearly, consumer demand is driving market development. What is also clear is that direct marketing creates opportunities not only for agricultural economic development, but can also serve as a primary mechanism for reconnecting producers and consumers.

While much of today's discussion will focus on the economic factors that drive participation in direct marketing ventures, I do want to take a moment to comment on how essential the direct connection our witnesses have with consumers is in bridging the gap between urban and rural constituencies. Facilitation of these business relationships can aid in a larger challenge that the Committee has been focusing on related to the perceived disconnect between consumers and food producers.

Early on in this Congress, several of us had the opportunity to hear from Mr. Charlie Arnot, who is the CEO of the Center for Food Integrity. Mr. Arnot and his team have done considerable work to better understand consumer expectations regarding transparency in our food systems, and their research responds to consumer demand for factual, easy to understand, and relevant information. A central objective throughout his team's research is to evaluate what steps can be taken to build consumer trust and confidence in today's food systems. With the average individual being at least three generations removed from production agriculture, strengthening ties between producers and consumers is a particularly worthy goal as we attempt to enact policies that maintain and enhance food security.

According to Mr. Arnot's research, when evaluating whom consumers hold responsible for trust-building and transparency, consumers view farmers second only to food companies in all aspects of food production. Though many opportunities exist to enhance transparency, I think it would be helpful to hear from producers who have familiarity in direct marketing, and about their experiences engaging consumers in an open dialogue.

Among our witnesses, I am pleased to welcome one of my constituents, Mr. Andy Heck. Mr. Heck currently works as a farm-to-school educator for genHkids, a not-for-profit based in Springfield, Illinois, that works with schools, community organizations, and families to improve the health of children, and a former teacher at the Buffalo Tri-City School District, with my former classmate, Mr. Steve Dilley, so I won't hold that against you.

Just a few months ago, my district staff had the opportunity to volunteer at one of genHkids' community gardens in Springfield, and see firsthand the fresh produce that is provided to the community and donated to local charities. I am thankful for the good work that genHkids does day in and day out to provide healthy food to families in central Illinois.

Prior to joining the genHkids team, Andy not only taught but farmed full time for over 10 years, growing a diversity of vegetables and fruits in the Springfield area, marketing produce directly to local restaurants through a community-supported ag program to local retail outlets, and at the Old Capital Farmers' Market in

downtown Springfield. Andy was named the Illinois Sustainable Agriculture Farmer of the Year in 2012 by the Illinois Department of Agriculture.

[The prepared statement of Mr. Davis follows:]

PREPARED STATEMENT OF HON. RODNEY DAVIS, A REPRESENTATIVE IN CONGRESS
FROM ILLINOIS

Good morning and welcome. Today, we will hear from producers involved in direct marketing ventures, such as local farmers' markets, direct to restaurant or grocery store sales, value-added sales, and community supported agriculture. Entrepreneurial efforts of individual producers certainly drive success in direct marketing ventures. Nevertheless, as producers seek to develop new marketing channels for their products, it is important for the Subcommittee to get their perspective on the opportunities they see, the challenges they encounter, and what programs can help facilitate further development of these alternative marketing channels.

As many of you are aware, the Agriculture Committee has engaged in considerable oversight and legislative effort regarding issues pertaining to marketing agricultural products.

Direct marketing is enjoying a resurgence driven both by economic considerations, as well as the desire among consumers for better relationships with those involved in food production. An evaluation of Census data comparing 2007 to 2012 figures shows steady increase in producer participation in each type of alternative marketing channel. Clearly, consumer demand is driving market development. What is also clear is that direct marketing creates opportunities not only for agricultural economic development, but can also serve as a primary mechanism for reconnecting producers and consumers.

While much of today's discussion will focus on the economic factors that drive participation in direct marketing ventures, I do want to take a moment to comment on how essential the direct connection our witnesses have with consumers can aid us in bridging the gap between urban and rural constituencies. Facilitation of these business relationships can aid in a larger challenge the Committee has been focusing on related to the perceived disconnect between consumers and food producers.

Early on in this Congress, several of us had the opportunity to hear from Mr. Charlie Arnot who is the CEO of the Center for Food Integrity. Mr. Arnot and his team have done considerable work to better understand consumer expectations regarding transparency in our food systems. Their research responds to consumer demand for factual, easy to understand and relevant information. A central objective throughout his team's research is to evaluate what steps can be taken to build consumer trust and confidence in today's food systems.

With the average individual being at least three generations removed from production agriculture, strengthening ties between producers and consumers is a particularly worthy goal as we attempt to enact policies that maintain and enhance food security.

According to Mr. Arnot's research, when evaluating whom consumers hold responsible for trust-building and transparency, consumers view farmers second only to food companies in all aspects of food production.

Though many opportunities exist to enhance transparency, I think it would be helpful to hear from producers who have familiarity in direct marketing and about their experiences engaging consumers in an open dialogue.

Among our witnesses, I am pleased to welcome one of my constituents, Mr. Andy Heck. Mr. Heck currently works as a farm-to-school educator for genHkids, not-for-profit based in Springfield, Illinois that works with schools, community organizations and families to improve the health of children.

Just a few months ago, my district staff had the opportunity to volunteer at one of genHkids community gardens in Springfield and see firsthand the fresh produce that is provided to the community and donated to local charities. I am thankful for the good work that genHkids does day in and day out to provide healthy food to families in central Illinois.

Prior to joining the genHkids team, Andy farmed full-time for over 10 years, growing a diversity of vegetables and fruits in the Springfield area: marketing produce directly to local restaurants, through a community supported agriculture program, to local retail outlets and at the Old Capitol Farmers' Market in Downtown Springfield. Andy was named the Illinois Sustainable Agriculture Farmer of the year in 2012 by the Illinois Department of Agriculture.

I now yield to the Subcommittee Ranking Member, Ms. DelBene, for her opening remarks.

The CHAIRMAN. I now yield to the Subcommittee Ranking Member, Ms. DelBene, for her opening remarks.

**OPENING STATEMENT OF HON. SUZAN K. DELBENE, A
REPRESENTATIVE IN CONGRESS FROM WASHINGTON**

Ms. DELBENE. Thank you, Mr. Chairman, and thank you for holding this hearing today. Thanks to all the witnesses for being here today. It is great to have such a diverse groups of producers here, including Kurt Tonnemaker from my area in Washington State, to talk about this issue.

The consumers I talk to are increasingly interested in a food system where sales occur the shortest possible distance from the field to the fork. And they know that food traveling a short distance from farm to plate is more likely to be fresh, and just as important, chefs are discovering that they can do better things with food if their raw materials; the fruits, the vegetables, meats, and dairy products, are fresh and of higher quality.

This trend has opened up new markets for food raised by producers who take pride in not only growing a quality product, but also telling a compelling story. Urban and rural residents are learning that they like to have direct connections to farmers and farm life, they like knowing where their food comes from, and knowing that it is grown by producers who take good care of their farmland and their animals. These consumers like knowing that their purchases not only sustains the producer, but also builds their community as well. These consumer preferences are opening up more opportunities for farmers to directly market or sell their products through channels that keep their identity as producers closely connected to their products.

I am biased, and so is Congressman Newhouse, my colleague, but I believe in Washington State we grow some of the best food you can find. In my district, farmers are also incredibly innovative in marketing to a diverse set of customers. One example is the Puget Sound Food Hub, borne with the help of USDA local food promotion and value-added producer grants, as well as assistance from private entities. This is a group of roughly 40 farms and partners operating cooperatively to market and distribute locally produced food to restaurants, hospitals, preschools, the cafeteria at Amazon, and grocery stores, to name a few. Instead of buying costly equipment, or having to drive long distances, these farmers have pooled their resources to be more competitive and reach more customers. As a result, sales directly to farmers are growing, and some farms have even been able to hire additional employees.

I appreciate the energy and creativity of the producers before us here today. They are, each in their own way, engaged in highly focused, relationship-oriented marketing. This approach is so needed in agriculture today, and many times is absent.

But this is also a great example of what the Agriculture Committee does so well. There is no partisan agenda here today. Instead, we are hearing straight from producers about their relationship with consumers, so we are better informed on how to craft agriculture policy.

So thank you, everyone, for being here today. And with that I yield back.

The CHAIRMAN. Thank you. And I would echo the comments about Washington's products. I find your cherries, when in season, at my local stores are much better than the Chilean ones right now, so thank you.

The chair would request that other Members submit their opening statements for the record so the witnesses may begin their testimony, and to ensure that there is ample time for questions.

The chair would like to remind Members that they will be recognized for questioning in order of seniority for Members who were present at the start of the hearing. After that, Members will be recognized in the order of their arrival. I appreciate Members' understanding.

Witnesses are reminded to limit their oral presentations to 5 minutes, or you will get the gavel tap from me. And all written statements will be included in the record.

I would like to welcome our witnesses to the table. And I recognize Ranking Member, Ms. DelBene, to introduce our first witness.

Ms. DELBENE. Thank you, Mr. Chairman. It is my pleasure to introduce Kurt Tonnemaker today. Kurt and his brother Kole are fourth generation farmers in Washington State. Their great-grandfather moved there in 1903 and started an orchard. Then in 1962, the family expanded the farm into a full-time operation, growing alfalfa, alternating with wheat, clover, and corn. Kurt and Kole are co-owners of the family farm. In 1992, they started selling at farmers' markets, at the same time when they started transitioning the farmland to certified organic.

Today, they grow nearly 400 different varieties of organic fruits and vegetables, including cherries, I have to point that out. And they sell throughout Washington at farmers' markets, direct to restaurants and grocery stores, through a CSA, at farm stands and wholesale, as well as tending to their 126 acre farm in central Washington, and also a 16 acre farm in western Washington.

So it is a great pleasure to have Mr. Tonnemaker here with us today, and thank you for being here.

The CHAIRMAN. Mr. Tonnemaker, welcome, and you are recognized for your opening testimony.

**STATEMENT OF KURT EDWARD TONNEMAKER, CO-OWNER,
TONNEMAKER FARMS, BELLEVUE, WA**

Mr. TONNEMAKER. Well, hello. My name is Kurt Tonnemaker. And as she said, I am a fourth-generation farmer from the great State of Washington, where my great-grandparents homesteaded in 1903.

For those of us who grow the food that is the foundation of America's prosperity can feel a little out of place today in modern society. So I wanted to thank the Committee Members for your service to agriculture and, therefore, the entire American public.

We grow hundreds of varieties of tree fruit, vegetables, and melons. We started direct marketing in 1984 when it became apparent that indirect marketing through a wholesale distribution system was no longer able to offer fair prices. That year, after waiting for 10 months for the final wholesale apple payment, we received a

check so small that the hired man joked; the paperboy could cash it for us when he came by on his bicycle.

In recent years, direct marketing has generated as much as 90 percent of our income from less than 30 percent of our tonnage. Said another way, selling 70 percent of our production wholesale produced only ten percent of our income.

My family has witnessed the spectacular pace of consolidation of both farmland and markets. My family realized 30 years ago to market our own product directly or else become extinct, just another pioneer family farm engulfed by another absentee corporate entity. Direct marketing saved our farm.

Supporting farms like ours is our generation's opportunity to encourage the small, independent, family farms that for generations were the backbone of American prosperity in rural America. Today, our farm provides a living for several families year-round, and for many summer employees, mainly students earning money for school. These family farmers who choose to stay on the land for the love of the land, and for the love of contributing something worthwhile are the people we want to entrust the future of our agricultural resources to.

On our farm, we truly believe that we are just temporary caregivers of these resources. We do not really own the land, but have borrowed it from our grandchildren. The future status of our food supply and the agricultural resources depends on our actions, or our failure to act, in our time.

With the remarkable success of the recent revival of direct marketing, the burdens and barriers for direct market farmers are increasing. Food safety records is an increasing burden for the small farm. Food safety has always been important to us because our business is built on providing safe, fresh food directly to our customers. We know our customers as individuals we care about. These binders, the 2014 food safety records for our farm, will not protect the public from outbreak or protect the farmer from responsibility. Thousands of farms, including ours, have produced safe food for decades without 6" of paperwork yearly. We have lost sight of what really matters in food safety: safe food.

If we are serious about safe food, why not educate the public in the same way that Smokey the Bear educated us all about forest fires?

While certainly there are obstacles, there are plenty of initiatives currently helping to support direct market farmers. One of the successful programs was a partnership between the King County Department of Health and the Columbia City Farmers' Market. Together, these groups obtained the funds and staff and authorization necessary to redeem SNAP, WIC, and Senior WIC nutrition benefits at the market. The partnership attracted a diverse group of new low-income customers who were excited to be able to access good-tasting, healthy food at the same place, as their benefits were able to be redeemed.

I encourage you policymakers to support the programs as well as the Farmers' Market Promotion Program, and the Specialty Crop Block Grants. In Washington State, agriculture research has been instrumental in the success of our fruit crops, and more recently improvements in organic and sustainable production methods. Di-

rect contact with customers profoundly and permanently changed the way we farm and why we farm. If this Committee could spend one market Saturday with us, Committee Members would never again be able to think the same about small direct market farms. For us, it has been an incredible experience to interact with the public that is very grateful to have good-tasting, fresh produce at reasonable prices.

Our customers are able to see the chance to support a family farm, and to see multiple generations working together. Possibly the brightest indications of the success of direct marketing is our son and daughter-in-law are working with us on the farm, instead of fleeing to the city. Apparently, the fifth generation of Tonnemakers farming in Washington believes in the future of direct market farming. There is something so American about the whole situation. Many independent, self-reliant individuals creating a better life for their families and future generations.

Thank you.

[The prepared statement of Mr. Tonnemaker follows:]

PREPARED STATEMENT OF KURT EDWARD TONNEMAKER, CO-OWNER, TONNEMAKER FARMS, BELLEVUE, WA

Basic Goals of Food and Agriculture (from statement by Senator John F. Kennedy, "Agricultural Policy for the New Frontier," October 9, 1960).

There are, it seems to me, two basic goals for food and agriculture. These are not my goals, nor the goals of any particular individual or group; they are the generally accepted goals of society—goals on which there is general agreement in our country.

- (1) We must assure, for the present and the future, an abundant production of food and fiber products, sufficient (a) to meet the needs of all Americans, and (b) to implement a positive foreign policy which will combat famine, contribute to the economic development of the underdeveloped world, and lay the foundations of world peace.
- (2) We must assure to the American farm family, which produces this abundance, an economic climate in which farmers can earn a fair income—an income which yields farmers a return to their labor, management, and capital equal to that earned by similar resources in non-farm employments.

These are admittedly broad goals. For example, the assurance of abundance for the future, as well as the present, requires conservation programs that will maintain and enhance the fertility of the soil, and will encourage the wise utilization of land resources—whether it be to produce field crops, forests, or a better natural habitat for game and fish.

* * * * *

Likewise, the assurance of a fair return to farmers must include a recognition of the importance of the family farm as an efficient unit of agricultural production, as an indispensable social unit of American rural life, and as the economic base for towns and cities in rural areas.

It was quite a surprise to be asked to testify before a Subcommittee of the U.S. House of Representatives. My brother, Kole, and I earn our living from a 126 acre family farm in central Washington and are attempting to revive an abandoned 16 acre farm in the Sammamish Valley of Western Washington. Kole has operated the central Washington farm for 35 years since our grandfather's death. The farm has been his family's sole source of income for that time. I have supported my family by direct marketing the produce from our farm for the last 23 years. Both Kole and I worked on the farm since we were old enough to pick rock, lift a shovel or fill a picking bag. The Tonnemaker family is the type of family that soon to be President, Senator Kennedy, was speaking about.

We produce tree fruit, vegetables, table grapes, melons and hay. The tree fruit includes apples, pears, sweet cherries, apricots, peaches, plums and nectarines. The vegetables include tomatoes, summer and winter squash, eggplant, cucumbers and

peppers. In order to provide produce all season, our production includes over 100 varieties of the tree fruits, 30 varieties of tomatoes, 15 varieties of melons and over 300 varieties of peppers as well as other direct market crops.

Our Beginning in Direct Marketing

Kole and I have been asked to provide testimony about our involvement in direct marketing. Beyond question, direct marketing saved our farm from extinction and has actually allowed us to flourish even during some very difficult times for the fruit industry in Washington. Through these difficult years, including the Great Recession, we have increased gross revenue by 400% due to direct marketing. Farmers' markets are the foundation of our direct marketing, accounting for 50% of all farm revenue. We began selling our produce at farmers' markets in 1984, steadily increasing both the number of markets attended and the volume sold at these markets. As the dire destiny of small farms like ours, reliant on the Washington fruit industry's current indirect marketing system, became apparent nearly 30 years ago, our goal has been to reduce reliance on wholesale sales and instead base our business on direct marketing with farmers' markets being of primary importance.

We began a serious effort to market fruit directly to consumers in 1984. We grew a sweet cherry variety, "Van", as a pollinator for Bing cherries, the main wholesale sweet cherry in Washington. In a particularly glaring example of the weakness of the traditional indirect wholesale marketing system, typical returns to the farm for the pollinator variety barely paid harvesting costs let alone production costs. Since the pollinator variety was actually a very nice dessert cherry we decided to sell these cherries directly to the public any way we could. Since our farm is distant from any major population center, direct marketing required considerable travel. In the first year our pollinator cherry returns jumped from the 6¢/lb wholesalers paid to the 50¢/lb consumers were willing to pay.

In 1985 returns for our indirectly marketed wholesale apples and pears became so low that the hired man joked that the paperboy could cash our checks when he came by on his bicycle. We were jolted to the realization that leaving the marketing of our fruit to marketing companies that had no financial incentive to obtain favorable prices was becoming disastrous and would bankrupt us. From that year forward every planting decision on our farm, whether annual or perennial crop, has focused on direct marketing. We were lucky to have several family members committed to the continued viability of our farm. Kole and his wife, Sonia, concentrated on production while I, along with our parents, marketed the fruit.

Involvement in farmers' markets has changed nearly everything about how and why we farm. Through the 1960's, 1970's and into the 1980's almost all produce from our farm was loaded on trucks and disappeared into the distance to unseen and unknown consumers at the distant end of a long distribution chain. On our somewhat remote farm, the ultimate consumer was almost an afterthought as, in practicality, our real direct customer was the broker who sat at the beginning of a complex distribution system. Brokers are not consumers and care little for the actual eating quality of the fruit. Brokers interests are primarily the ability of the fruit to endure handling through a long distribution system and the eye appeal to satisfy store produce managers and entice customers. Unfortunately, durability and eye appeal have little to do with eating quality. This intuitive fact was given scientific credence recently when Dr. John Feldman at Washington State University was able to show a genetic and physiological link between increased red skin color and decreased sugar content in Red Delicious apples.

New Perspective Required of Direct Market Farmers

At a farmers' market, we stand face to face with the person who will eat our fruit. We are personally responsible for that fruit. For farmers' markets, the imperativeness of customer satisfaction relegates, to marginal importance, all other concerns in fruit production and marketing. To succeed in direct marketing, ease and simplicity of growing, harvesting and transporting our produce cannot control our decision making process. One well-known example is the Honeycrisp apple, bred at the University of Minnesota and patented in 1991. In 1996, in response to sending a Honeycrisp sample to our wholesale broker (one of the largest in Washington to this day), we were told that, although it tasted good, Honeycrisp had no commercial future because of poor appearance. In spite of that expert industry insider prediction, Honeycrisp, with its' unique and outstanding eating quality, has become, by far, the most sought after apple we grow. Honeycrisp is also widely regarded as possibly the least "grower friendly" variety grown commercially and presents many major problems for growers, packers and shippers. In our operation, "grower friendly" or "good shipper" hold far less importance in variety selection across all types of fruit and produce than do outstanding and unique taste. We search for and have found

unique varieties with “Honeycrisp” appeal in melons, tomatoes, sweet cherries and many other produce types. Today, people routinely drive more than 100 miles to obtain our unique and hard to find direct market fruit and produce.

How We Came To Be Direct Market Farmers

We farm in the U.S. Bureau of Reclamation’s Quincy, Columbia Basin Irrigation District. Grand Coulee Dam supplies our irrigation water. This water first became available in our area in the mid 1950’s. Our grandparents, Orland and Pearl Tonnemaker purchased the farm as virgin land in 1962. Originally, the irrigation district was divided into farm units each unit designed to support a family. Through the 1960’s and 1970’s, our farm was surrounded by small family farms similar to ours. By the late 1980’s, single-unit family farms were rapidly disappearing. Those that survive today have, like us, involved multiple family members or generations in direct marketing their farm produce.

Our Great Grandparents Henry and Cora Tonnemaker homesteaded in the Yakima Valley in 1903. In those days the farmers apple marketing system was simple. Family members packed the apples from their orchard in standardized wooden boxes they made and labeled themselves. Empty freight trains stopped at neighborhood rail stops and buyers paid cash for the packed apples on the spot. From tree to train was usually only a couple miles and from crop on the tree to cash in hand was only a day or so. That simple system and a favorable climate encouraged expanded fruit production in Washington. In time, a Federal Marketing Order was established which created, among other things, color and size standards. With standards came the necessity to build packing lines to make sorting and packing more efficient. Our Grandmother, Pearl Tonnemaker packed apples for years on just such a line. All size and color sorting was done by human eye and human hand. With these packing lines, came the packing companies that individual growers paid to sort and pack fruit because every farm couldn’t build its’ own packing line. Over time, the grading standards became more and more precise and human eyes and hands just couldn’t sort as accurately or as fast as machines. Today, instead of hundreds of individual farms packing fruit on site, we have less than 100 apple packing warehouses in Washington. The proliferation of very narrow color grades used to pack apples today requires multimillion dollar color sorters. Modern packing lines sort defects, assign color grades and assign size grades for each individual apple in a fraction of a second. The cost of machinery used to sort and pack apples today has rocketed well beyond the reach of family farms. Along with paying fruit companies to sort and pack apples, farmers eventually began relying on the fruit companies to store and market apples. Thus we have the origins of today’s indirect marketing system used to market almost all tree fruits in Washington State. In the 100 years since our Great Grandfather planted apples, individual growers have incrementally ceded control of handling and marketing to incrementally larger packing companies. Today, once the fruit is placed on a truck in the orchard, the grower has absolutely no control over the fruit’s destiny.

Ironically, growers technically own the fruit all the way to the consumer’s hands, therefore absolving the packing company of any responsibility for the fruit. The grower has all the responsibility but no control. The packing company has all the control but no responsibility. Gee, I wonder how that works out? Wonder no more. Over the last 30 years fruit companies have flourished routinely keeping well over $\frac{1}{2}$ the selling price of the fruit. It is commonplace for the fruit company to keep 90% of the selling price and at times packing companies actually bill the farmer instead of paying. The 2014 apple crop was a recent glaring example of this practice that has become the standard operating procedure in the Washington fruit industry. Since the fruit companies never actually own the fruit they have little incentive to market small client farmer’s fruit for more than just enough to cover fruit company costs. Growers get what is left over after all those along the marketing and distribution chain have taken their cuts. By ceding control but not ownership of their fruit, growers allow their income to be determined by others who have no real incentive to return good prices. It absolutely beggars belief that, after producing and harvesting an apple crop from which the whole supply chain derives income, farmers can be left with very little or even a bill. It is hardly surprising that smaller family orchards, relying solely on indirect marketing, have disappeared rapidly over the last 30 years. Not surprisingly, the fruit packing companies have absorbed farm after farm from the very people they paid poor returns. Today, many of the largest fruit producers (acreage holders) in Washington are vertically integrated companies (fruit packing companies) that can afford to farm with returns below production costs.

Colonization of Our Agricultural Land

Basic Goals of Food and Agriculture (from statement by Senator John F. Kennedy, "Agricultural Policy for the New Frontier," October 9, 1960).

Likewise, the assurance of a fair return to farmers must include a recognition of the importance of the family farm as an efficient unit of agricultural production, as an indispensable social unit of American rural life, and as the economic base for towns and cities in rural areas.

In our area of central Washington, within the U.S. Bureau of Reclamation's Quincy Colombia Basin Irrigation District, family farms, even large family farms, are in direct competition with outside corporate interests for sufficient land to remain economically viable. The outstanding agricultural resources of central Washington has drawn many outside entities. A large percentage of available land within the Federal irrigation district has been and continues to be purchased by fruit companies based in distant cities. The produce of these farms is trucked to distant cities for packing and marketing. Since packing and marketing are the main profit centers for wholesale fruit, nearly all of the profits stay in the cities. The laborers live and work in the small towns near the farms and the bulk of the profits stay in the cities. The small towns of Central Washington are towns of laborers and few managers and owners. In the not too distant past, this was called colonization. Legal limits on use of Federal irrigation water by any one entity are overcome by use of loopholes or just ignored.

Direct market farms have the potential to help small agricultural communities to once again become populated by owner-operators. If farmers can direct market their produce at retail prices, they can afford to purchase land and other capital inputs. The hurdle of finding available land and of competing to purchase the land with outside interests that don't need to profit from production remains a huge barrier. Direct market farmers can make a small farm profitable. How different people think of the land and communities when they have ownership in part of it. The United States was built by individuals coming to a new world and having the initiative and opportunity to build a new independent life. That independence became the American Spirit that transformed former colonies into the greatest nation the world has ever seen.

Indirect Wholesale Marketing Has Become a Buyers Market

Though the number of fruit wholesalers (packing companies) in Washington has dwindled, the Washington Apple Commission still lists at least 70 fruit packers. Because of retail consolidation, these 70 or so packing companies all compete to sell to a rapidly diminishing and thus powerful and demanding set of buyers. This classic buyers market has been compared to a high school dance with 100 boys and ten girls. What does a boy have to do to get a dance? In this buyers market, fruit packers have had little ability or incentive to sell produce for more than the packing company needs to cover its costs. The recent imposition of a tariff on Washington apples exported to Mexico exemplifies this point. The Mexican Government study of industry records concluded that Washington fruit warehouses were guilty of dumping apples in Mexico at below the cost of production. Regardless of the validity or propriety of claims about dumping agricultural products, this case shows that the Washington fruit industries own figures demonstrate the widespread marketing of apples at below production costs.

Additionally, fruit packers apparently no longer have the ability or will to enforce the Perishable Commodities Act (PCA) that was enacted to give Federal Government backing to farmers, guaranteeing prompt payment for perishable crops that cannot be recovered for non-payment. Large buyers routinely take months to pay. Progress from my great grandparents day 100 years ago to today apparently means waiting 5 months or more instead of cash on the spot at purchase.

Breakdown of Income Sources for Our Farm

While we still sell some fruit through the traditional wholesale warehouse system, direct marketing has saved our farm. In 2015, working together, Kole and I produced over 80% of our total gross income by direct marketing less than 50% of our total fruit and produce tonnage. In other recent years, direct marketing has generated as much as 90% of our income from less than 30% of the tonnage produced. Stating that a different way, selling 70% of fruit produced on our farm by traditional indirect marketing produced only 10% of our income. That 70% of our tonnage enriched everyone along the marketing and distribution chain except the farmer.

Indirect Wholesale Marketing Returns At Or Below Cost of Production

Farmers whose sole occupation is production of food and fiber, have been a vital foundation of the incredible success story that is the United States of America. Overproduction of commodities and the reliance on indirect marketing systems over the last generation have led to the demise of the family farm and the rise of corporate agriculture. The actual production of food has become occasionally and marginally profitable, mostly even downright unprofitable. In the Washington fruit industry over the last generation, profits have mainly come from handling and marketing fruit for the farmers. Those vertically integrated companies handling and marketing other farmer's fruit have thrived and accumulated farms from farmers forced out by low returns. That makes one wonder what incentive an aggressive vertically integrated fruit company would have to create good returns for farmer clients when bankrupt and struggling client farmers have been easy pickings for these corporate giants.

Are Family Sized Farms Important?

Why should anyone care? Why should our government care? Many might say that the elimination of family farms or farm operations that exist solely as producers is inevitable and even desirable progress. Many might say that these small operations must give way to large vertically integrated corporations that can produce farm products year after year with break even or lower returns. Farms able to produce farm crops consistently at break even or a loss may now be considered the most efficient farms.

Senator John F. Kennedy Statement, "Agricultural Policy for the New Frontier," October 9, 1960.

One of the great issues confronting agriculture and the nation is the economic survival of the family farm pattern of agriculture. The owner-operated family farm, where managerial skills, capital investment and labor are combined in the productive enterprise, is at stake. The problem is not one of efficiency; the family farm is an efficient, productive unit. The problem is one of the acquisition of sufficient capital and the necessary management skills by enterprising young families to successfully enter farming, where the average farm is becoming bigger and bigger in terms of land and capital, and more and more complex in terms of organizational structure. We are reaching that point in farming where an enterprising family can operate a modern farm efficiently, but it cannot buy one. non-farm capital is taking over the managerial function, reducing the members of independent farm families to the status of laborers.

Further, family farmers need the technical and bargaining help in the sale of their products and the purchase of their production supplies that a successful cooperative association can provide. With such assistance they can remain independent decision units—free of the control of the processor, the feed dealer and the local buyer.

The family farm should remain the backbone of American agriculture. We must take positive action to promote and strengthen this form of farm enterprise. This I believe with all my heart, we should do.

(JFK, October 9, 1960).

Short-Term Profit Taking from a Vital Long-Term Asset

The public and its representative, the government, needs to care because, in our economic system, corporations are responsible for short-term profits for their stockholders. At this time, corporations are not responsible to the next generation for depletion or degradation of vital resources needed to produce food for future generations. So, who is responsible? I think that all of us are responsible to coming generations. One definition of the responsibility of government is to do for people what they cannot do for themselves. If, as individuals, we cannot make corporations responsible stewards of our resources then we need our government to encourage the sustainable use of our resources to ensure that future generations are as blessed with abundant natural resources as we have been.

Corporations are not inherently evil. They just have objectives often at odds with the long-term sustainable use of our agricultural resources. Family farms often have the expressed goal of keeping the farm productive and profitable for succeeding generations. The ability to direct market products at retail prices can help preserve these family farms. Restricting direct market access for family farms will secure the demise of the family farm and turn the remainder of our agricultural resources over to large corporate farms.

All of us should care because the history of corporate enterprise in our culture is the pursuit of short-term profits with little regard the degradation of vital long-

term public resources. As a nation we cannot allow short-term corporate profits of large scale agriculture to degrade resources that following generations will need for food production in the future. The idea “this is private land and we will do what we want with it” cannot be used as justification for degrading resources vital to future generations. A capitalistic economic system requires enterprises to be profitable in the short-term. For much of the economy that is as it should be. If a McDonalds location is unprofitable then it should be closed. If a manufacturing plant produces obsolete equipment then it should change or close. Possibly, the most significant shortcoming of our mostly successful capitalist system is our inability to quantify the cost of natural resource degradation or the ability to include the cost of this resource degradation as a cost of production.

In our area large farming corporations have mined ancestral aquifers, such as the Odessa Aquifer, to enrich the shareholders of this generation at the expense of all those that follow. Massive wind erosion occurs every year from the largely corporate owned or leased area of the Black Sands as if we haven’t learned anything from the Dust Bowl years.

Have We Learned Anything Or Is Degradation of Agricultural Resources Just the Next Generation’s Problem

Like many farming families, our family has had largely different views between generations on resource use. I have a great deal of respect for the generations I have known. My parents, grandparents and great-grandparents persevered through conditions and obstacles that I can only imagine. We cannot ever put ourselves today in the same circumstances with the same life experiences and knowledge as our predecessors. Therefore, I feel we must not sit in judgment over them, we are not their peers. That being said, today, when we look back, we can see plenty of actions or inactions now perceived as mistakes. How could our society have allowed the disappearance of the small family farm which was a presidential campaign issue at least as far back as 1960 when John Kennedy and Richard Nixon debated? How could we have allowed the Odessa Aquifer to become so depleted when examples like the Ogallala Aquifer already existed? How could we have allowed such erosion as the Dust Bowl when soil scientists had warned about it for years? How could we abandon proven technology like the tens of thousands of windmills used in remote farm country for more than a generation and burn coal instead? How could we abandon cultural techniques learned over generations to rely instead on monoculture combined with a chemical for whatever ails you? How could we have taxed farmers out of the fertile Kent Valley, just a stones throw from Seattle and paved it over for warehouses and strip malls? How could we in a generation acidify the soil of the Palouse—possibly the most productive dryland wheat producing area on Earth? The answer is that short-term profits were better and long range consequences unknown or ignored. Today we have no excuse for ignoring lessons gleaned from the experiences good and bad of our predecessors. Failing to acknowledge the limits of the natural bounty of our blessed country, failing to acknowledge the limitation of our mostly successful economy to account for long-term effects of short-term profit taking, failure to encourage and support the initiative of individuals in a farm economy more and more dominated by huge corporate interests cannot and will not be acceptable to future generations. Many of us dread the world we appear to be leaving our children and grandchildren. Supporting small-scale direct market based agriculture is one good thing we can do for the future. Exponentially increasing regulatory compliance burdens along with other actions that close access and opportunities to small-scale direct market farmers threaten this grass roots farming movement. Are we going to crush small-scale direct market farming just as small-scale dairies were crushed a generation ago? Have we learned anything? Whether small family farmers or city dwellers, many of us feel helpless when confronted by the relentless and remorseless onrush of what is labeled progress. Along with the wonders of advances in knowledge and technology are the potential pitfalls of poor planning and consideration of affects on the future. Those of us, who routinely feel powerless, elect you representatives to help us do what we cannot do individually.

Where Does The Government Fit in All This?

Senator John F. Kennedy speech Sioux Falls SD, September 22, 1960.

. . . the individual farmer is too small to maintain prices or control production on his own or even with his neighbors. He lacks bargaining power in the markets. He needs the help and support of his Government . . .

Elected officials have a great responsibility and a great opportunity to leave a legacy. Maybe many Americans, cruising through supermarkets crammed with abundant and affordable food, don’t worry about the food supply of the future. However,

very likely, decisions will be made, by those entrusted with safeguarding our agriculture resources, natural and human, that will affect the long-term viability of our food supply. All of us will be judged by our children, grandchildren and generations beyond that on what kind of world we leave for them. Are we going to leave a country whose natural resources and food supply are controlled by a handful of “too big to fail” entities enslaved by the pursuit of short-term profits for the few select shareholders? Are we going to leave a world similar in some ways to the origin of the United States with a multitude of individual farmers intent on building a better world for those yet to come by sustainable use of our natural resources?

Direct Market Farmers Today Are Reviving the Family Farm Model and Come to Farming Because They Want To Farm the Land—Not As a Path To Riches

Who is the typical direct market farmer today? I would say there are two types. The Tonnemaker family belongs to the first type, a farmer from a farm family who transitioned from wholesale sales to direct marketing to make a small farm viable as wholesale prices shrank to well below production costs over the last generation. Because of low small-farm income and far more lucrative jobs off farm, this farmer certainly made the choice to work the land because of a desire to farm.

Senator John F. Kennedy speech, London, Ohio, October 17, 1960.

I believe that the decline in agricultural income is the most difficult and important domestic problem facing the United States, both because of its effect on farmers and because of its effect on industry.

Senator John F. Kennedy speech, Sioux Falls, SD September 22, 1960.

For the farmer, is the only man in our economy who has to buy everything he buys at retail—sell everything he sells at wholesale—and pay the freight both ways.

The second type of today’s direct market farmer comes from a non farm background. These people often walked away from less demanding and far more lucrative career opportunities because of love of the land or farming. If short-term profit was a primary concern for these farmers they wouldn’t be farming at all. These small farms, direct market farmers are far more likely to be concerned with the long-term effects of what we do to the land than corporate farming entities consumed with the pursuit of extracting as much short-term profit as possible. To whom do we entrust the long-term health of our natural resources?

Challenges of Small Scale Direct Market Farming—Food Safety Regulations

Over the last 25 years, public interest in purchasing food directly from farmers has increased dramatically. Most direct market farms are small family run operations. Most of these operations have few if any employees aside from family. As such, the owner(s) physical involvement in the field during the growing season, at harvest and for marketing is critical to the operation. Record keeping for food safety programs has in recent years become a huge burden. When Kole attended the first meetings to learn about food safety compliance record keeping, he returned feeling that adding this massive load of paperwork would be the end of our farm’s ability to market any fruit wholesale. Hundreds of hours of paperwork were required leaving less time to actually produce a crop. In time, the company wholesaling our fruit simplified the paper work to a pair of 3” binders. Last year we spent over 100 hours filling out forms and ensuring compliance for the food safety program. It must be pointed out that 6” of signed and dated forms do nothing to guarantee that fruit on the grocery store shelf is free of harmful bacteria. At some point all of us need to realize that filling out more and more papers does not guarantee anything. Instead, on small direct marketing operations, those who should be in the field end up tied to a desk. Successful farming is about production and small direct market farms have little manpower available.

Weaknesses in GAP Regulations

Following current food safety requirements (GAP or Good Agricultural Practices) does not remove liability or help a farmer financially in the event of a recall/outbreak. GAP were developed using very little if any on farm evidence based on research, but rather applied rules from food processing facilities. Direct market farms are not factories and should not be treated as such.

Thousands of dollars spent on record keeping do not protect the public from outbreaks or protect the farmer financially in case of an outbreak. Additionally, onerous amounts of paperwork do nothing to protect produce from contamination once it leaves the field. The only thing that really matters is that the fruit is free of

harmful bacteria when the consumer puts the food in his or her mouth. A 6" pile of papers does nothing to guarantee that. The record keeping is just yet another obstacle for the small farm operation. Thousands of farms including ours successfully produced safe food for decades without 6" of paperwork every year. In the headlong rush to attempt to prove with a raft of paperwork that we are not to blame when outbreaks occur, we have lost sight of what really matters in food safety—safe food.

Having face-to-face contact with those who eat our produce influences many on farm decisions. The American public has become increasingly concerned with how their food is produced. In response to customer concerns we began organic certification of our crops in 1997. A prevailing theme of sustainable agriculture has been to use a combination of all available natural resources to produce crops rather than to rely entirely on artificial inputs such as synthetic chemicals. Certainly on our farm 25 years ago and throughout agriculture, it has become apparent that problems in crop production cannot be solved by chemicals alone. Even conventional agriculture has returned to using as many natural controls as possible so that synthetic inputs remain effective when needed. Somehow those writing GAP missed all that as field food safety rules imply that total elimination of birds, rodents and other critters native to the environment is necessary. In addition, to reduce the potential public peril, any non-crop areas (erosion control windbreaks for example) that might harbor such dangerous creatures as robins and finches should be eliminated. Sustainable agriculture techniques enlist these very animals and others to control crop pests. If we cannot keep hospitals free from MRSA, there is no hope of sanitizing a natural system.

Lack of Connection to Agriculture and the Fear of Food

Imbedded in the recent proliferation of food safety regulations is the fear of the unknown. A generation ago, the majority of Americans had some family connection with agriculture. Even distant connections helped make Americans more comfortable with both farms and farmers. Today, few Americans have that connection to where and how their food is grown. With health and environmental concerns rising during the last generation, Americans have become more concerned about food production and its' affect on health and the environment.

Perhaps, some the resources that may be devoted to making the 6" binder each year could instead be used to educate the public about how food is produced, putting health risks in perspective, learning about how to reduce food safety hazards post harvest, learning about food safety hazards in the home, learning about how food safety problems occur. Encouraging everyone to be aware and better stewards of the food supply. An advertising campaign like "Smokey the Bear" for forest fires but instead one for food safety could do more for food safety than a football field of 6" binders.

Direct market farmers sell their produce face to face with those who actually eat it. Accordingly direct market farmers take great care in providing top quality produce. With the shortest possible distribution system, direct market produce has far less exposure to potential contamination.

Direct Market Farmers Help Consumers Feel Connected to Agriculture and Our Agricultural Resources, Natural and Human

If our experience in Washington State is any indication, direct marketing of produce has increased tremendously in the last 25 years. This has happened as a grass roots movement where the interests of consumers wanting a first hand relationship with food producers and the interests of small acreage farmers hoping to sell produce at retail prices coincide. Incredibly, this has happened in a time of unprecedented farm and retail consolidation. Government entities from the USDA to city councils have supported the creation of farmers' markets. In Washington State we have programs to allow and encourage low-income aid recipients to purchase nutritious food directly from farmers. Undeniably, however, the recent direct market boom has, at its' root, the desire of large numbers of American's to buy their food directly from the farmer. The Federal Government snuffed small dairies out of existence a generation ago with regulations that mystified dairymen who had provided safe, affordable fresh milk directly to consumers for generations. With that history in mind, we encourage you, our elected representatives to realize the government's ability to squash this popular direct market phenomena. Please be mindful of the effects of the multitude of programs and rules on small operations. You, as our elected representatives have the ability to encourage rather than disable this movement and in so doing contribute to the future food security of our country.

Continued Agricultural Research Is Vital To Make the Best Use of Our Limited Agricultural Resources

The future viability of direct market farms relies on continuing agricultural research. Too frequently we hear that spending on agricultural research needs to be cut or even eliminated. Considering that the goal of agricultural research is to help us make better use of our nations limited resources to ensure a safe and stable food supply for the future, I can hardly believe people seriously think that. Direct market farmers are already cut off from access to most new cultivars from breeding programs—even those at land grant universities. Large entities tie up the propagation, production and marketing rights to promising new varieties. Often research programs are geared toward commodity crops, not direct market crops. Research into cultural methods for animal pest, insect pest, weed and disease control as well as soil enrichment and conservation practices really come only from land grant universities' research and extension programs. In Washington, these programs are considered essential parts to the entire horticulture industry and agriculture in general.

Crop Insurance Limitations for Direct Market Farmers

We have purchased crop insurance for asset protection in case of crop failures. Any agricultural crop can be risky to grow and tree fruits particularly so. With our diverse crop mix we are now purchasing an Adjusted Gross Revenue policy that seems like the type of insurance most helpful to us. Over the last 20 years we have rarely had a claim but the issue of direct marketing receipts always comes up. Most of our income and all income on many small direct market farms comes from cash sales at farmers' markets or roadside stands. Since these transactions are small and numerous compared to a single weight ticket from a warehouse company, insurance companies have great difficulty accepting direct marketers figures. This difficulty leaves us wondering if we will be able to satisfy insurance company questions if the need arises to file a claim. I am certain that this issue is a deterrent for many direct market farmers.

Technology Barriers to the Use of Government Assistance

As more people prefer to make purchases using credit or debit cards and more government assistance is available through electronic benefit transfers, a technology barrier has emerged for direct market farmers. Often farmers' markets locations lack Internet access. Card readers may not interface with the available phone connections. Some locations, especially farmstands, may lack a reliable phone connection. Currently both the inability to access the Internet or even phone service and the limited compatibility of phones and card readers create significant barriers limiting a direct market farmer's ability to serve potential customers.

We marketed our fruit at eight farmers' markets in the greater Seattle area last summer. Three of those markets remain open year-round. All of these markets are approved by the state for redemption of Women, Infants and Children (WIC) coupons. We have participated in the Farmers' Market Nutrition Program (FMNPWIC) and the Senior Nutrition program for a number of years now. We are also approved to accept these coupons at our farmstand. These programs have helped us generate many new customers and have helped low-income families obtain fresh nutritious food. I have testified at the Washington State capital in Olympia several times about the positive impacts of the FMNPWIC program for both farmers and low-income families. Because of these positive impacts, the Washington State Government has continued to fund the programs in spite of, at times, severe budget constraints.

While the FMNPWIC and Senior Nutrition programs are most definitely beneficial to both the farmer and recipient, the system for completing transactions is still under refinement. Each check must be stamped with numbers identifying the market or location and the farmer and then a bank deposit stamp. If any of these stamps are unreadable, the check is returned creating bank fees well beyond the value of the individual check.

We started direct marketing in the Seattle area in the summer of 1992. At that time, we could accept paper Food Stamps and redeem them at the bank. A couple years later when the Food Stamp program transitioned to Electronic Benefit Transfer (EBT) cards we could not accept the cards directly. This resulted in the loss of EBT sales to large grocery chains. Some farmers' markets have been able to purchase EBT card readers and the necessary equipment to complete the transaction through Internet connections. EBT customers received tokens to use for purchases from farmers' market vendors. These vendors, in turn, redeem the tokens with market management.

In 2013, we participated in the South King County Food Access Program that supplied individual farmers' market vendors with EBT card readers at a reduced price and discounted transaction fees to evaluate how individual farmers would deal with

EBT sales. I was on the advisory board charged with collecting vendor feedback concerning the additional time required to complete individual EBT transactions at farmers' markets. Among the advisory board conclusions was that an affordable single card reader system that could deal with all of the different forms of benefit programs and could be used at the farmers' market needs to be the ultimate goal.

We have also used both hardwired and mobile Point of Sale (POS) card reading systems. Recently we have used the Square (Square is a company name) card reading system and a TSYS (TSYS is a company name) reader. Neither of these systems currently accept WIC or SNAP (Supplemental Nutrition Assistance Program—formerly Food Stamps). The current absence of any system that accepts SNAP and allows for multiple phone types and carriers denies farmers' market vendors the ability to directly accept SNAP payments.

The Role of Direct Market Farmer in Healthy Eating

Certainly, one of the wonders of our American way of life is the grocery store. Americans access to diverse, plentiful and affordable food every day of the year has got to be something extraordinary and unique in human history. That being said, supplying fruit and produce to distant markets year round has had the unfortunate consequence of elevating storage, handling and shipping characteristics way beyond taste and consumer satisfaction considerations. For example, in a stinging indictment, our father's business associates from Far Eastern Siberia complained that our supermarket strawberries were tasteless compared to strawberries offered for sale in sub-arctic Siberia. After traveling throughout Far Eastern Siberia, our father reluctantly had to agree. We have many customers at our farmstand and at farmers' markets that recently immigrated to the United States or are foreign students. They routinely drive several hours to obtain fresh fruit and produce from our farm. These customers complain that typical United States supermarket produce is far inferior in taste to the produce they were accustomed to prior to coming to the United States. These immigrants come from all over the world, Eastern Europe, Far East and the Middle East commonly. As patriotic Americans these complaints bother us all the more so because the complaints are often disturbingly valid. The high school and college students we employ often remark that they will not eat supermarket produce after a summer of eating fruit and produce fresh from our farm. The experience of these student employees and these immigrants stems not from some underlying superiority of us as farmers but from the direct farm to consumer contact. Our tomatoes may travel only 200' from plant to farmstand customer's hands and often have been picked within hours of sale to consumers. Our peaches may travel over 100 miles to a farmers' market but have been picked ready to eat mere hours before. Grocery store chains cannot do that and, in our experience, have been unwilling to even try. Such lunacy to have a grocery store in Wenatchee or Yakima, Washington surrounded by orchards that sells tasteless and soft apples that were grown thousands of miles away.

Is it really any wonder that Americans consume far less fruit and produce than people in almost every other developed nation? Is it really any wonder that America has a serious problem with child obesity? Our supermarkets are full of poor eating quality produce and extremely enticing sugary, fatty and salty snacks. As a nation we need to encourage healthy eating by providing healthy food that people will seek out and eat because it tastes good. We need to raise children who realize how good fresh fruit and vegetables can taste. Just saying "eat your vegetables!" hasn't been enough.

If we believe medical research, a healthy diet can reduce medical problems. Accordingly, it seems we should do what we can to encourage healthy eating habits. Healthy eating habits should be so much easier to develop with an abundance of good tasting healthy fruits and vegetables. As growers we know that good tasting fruits and vegetables are so much easier to grow when the primary consideration is taste and not storage life, cosmetic appeal, and the ability to withstand handling, shipping, and shelf life. A return to more direct marketing can continue to help Americans eat healthier.

Summary of Ideas

Benefits of Direct Market Agriculture

What an opportunity for us all, farmers and customers. Direct marketing has many potential benefits.

- (1) Make smaller acreage farms economically viable through access to retail pricing of produce.

- (2) Increase the availability of locally grown produce. This increases long-term food security by retaining more farmland in production instead of development.
- (3) Aides in the sustainability of our food supply by encouraging local production of fresh produce therefore reducing our reliance on produce hauled hundreds or even thousands of miles
- (4) Aides in preserving the long-term productivity of our agricultural resources. Small family farming operations are far more likely to be concerned with the condition of resources left to sons, daughters and grandchildren than farming corporations willing to deplete our resources chasing short-term profits for shareholders.
- (5) Promotes better eating habits and therefore potentially a healthier population by providing good tasting healthy food.
- (6) Access to retail pricing has the potential to offer enough income to give new farmers and sons or daughters of present farmers hope for a decent standard of living as farmers of the future.

Barriers for Direct Market Farmers

It must be noted that the recent rapid expansion of direct marketing has developed in spite of significant barriers. It is our hope that new potential barriers do not extinguish this exciting grassroots phenomena.

- (1) Direct market farmers need years to develop a sufficient customer base to support a farm
- (2) Direct market farmers must learn to do all the tasks usually done by a series of professional marketers in a distribution system
- (3) Direct market farmers must be able to handle all farming and marketing tasks from basic farm work, mechanics, bookkeeping, regulatory compliance, transportation, produce quality control and customer relations.
- (4) In many cases direct market farmers need to learn to grow new crops or varieties. In many cases there is little information available to these farmers unless given the chance to learn from other farmers.
- (5) Simple and universally available technology to help customers access all government assistance coupons is still being developed.
- (6) Direct market farmers encounter difficulty satisfying crop insurance adjustors because of the multitude of small cash transactions inherent to the very nature of the business.
- (7) Direct market farmers by nature grow crops on a scale small enough that the crop can be marketed locally and directly. Cultivation of these crops is often not the focus of agricultural research. Therefore, direct market farmers frequently lack knowledgeable assistance with problems in crop production or handling.
- (8) Direct market farms are often small operations where everyone involved must be working on production or marketing. These small operations do not have the human resources to keep up to date with, ensure compliance with and document compliance with a regulatory burden that could be handled without significant human resource diversion in large corporations.

How Can The Government Encourage and Enable the Direct Marketing Grass Roots Phenomena?

- (1) Continue USDA grants that help and support establishment of farmers' markets.
- (2) Continue progress on solving technological obstacles to distribution of government assistance at farmers' markets and farmstands.
- (3) Continue and encourage agricultural research in non-commodity crops.
- (4) Continue to refine Federal crop insurance to account for small direct market farms.
- (5) Do not allow regulatory burdens to crush this vibrant new part of the farm economy like the regulations that annihilated small dairies a generation ago.
- (6) Instead of continuing to allow proliferation of incrementally less effective, less practical and more onerous regulations, use resources to create an advertising campaign to educate consumers about food production and how they can help keep their food safe.

Concluding Thoughts and Food for Thought from the Debacle That Was Soviet Agriculture in the Collective Farm Era

There is no question that direct market farming is expanding rapidly with widespread public support. So far, these farms have overcome present obstacles because of the momentum generated by this great opportunity for farmers, consumers and the public in general. Though not identical by any means, the revival of so many productive and popular direct market farms shares a few similarities to agriculture just prior to the fall of the Soviet Union. While Leonid Brezhnev was running the Soviet Union he presided over one colossal crop failure after another as the doomed concept of huge collective farms failed miserably. Year after year the Soviet Government purchased large quantities of grain from foreign countries to feed its citizens. In desperation, the Soviet Government decided to allow those operating the failing collective farms to individually cultivate small garden plots. Farmers were allowed to sell the produce of those plots at farmers' markets and keep the revenue. Quickly those plots became a vital part of the Soviet food supply as the small plots were incredibly productive ultimately producing up to 20% of the country's food from a minuscule percentage of farm acreage. A somewhat perturbed Soviet Government wanted to close the profitable garden plots as counter to communist principles but ultimately decided to continue the program so as not to risk losing 20% of the country's food and thus sparking popular revolt. The point is that small local farms with access to direct marketing can provide a significant amount of food. In addition, public support has created our local farmers' markets and the public has and will continue to support programs that keep these markets viable. Today's direct market farmers and farmers' markets can continue to thrive with minimal direct help from the Federal Government. Continuation and refinement of existing efforts to nurture this grass roots movement could ensure the future of the direct marketing of farm products. Perhaps the greatest fear of any small farmer today is being crushed under the burden of regulation. We have to hope that all of us farmers, consumers and government will not allow that to happen.

Even though we always thought that the day could come when the public in general began to revalue a direct relationship with farmers and food production, the boom in direct marketing over the last 25 years has been surprising and exciting. Direct contact with consumers has profoundly and permanently changed the way we farm and why we farm. If this Committee could spend one market Saturday with us, Committee Members would never be able to think the same again about small market farms. For us, it has been an incredible experience to interact with a public that is very grateful to have good fresh produce at a reasonable price. Our customers also seem grateful for the chance to support a family farm and to see multiple generations working together. Possibly the brightest indication of the success of direct marketing is that our sons and daughter-in-law are working with us on the farm instead of fleeing to the city. There is just something so American about that whole situation—many independent, self-reliant individuals creating a better life for their families and for future generations.

Respectfully,

KURT TONNEMAKER, fourth generation Washington farmer.

The CHAIRMAN. Well, let the record show that was 4 minutes and 59 seconds. Wow.

I will not go through the intro of Mr. Heck again, but again, welcome from the great State of Illinois, and especially central Illinois where we both reside. I appreciate you being here. You are free to offer your opening testimony.

**STATEMENT OF ANDREW HECK, GARDEN EDUCATOR,
GENERATION HEALTHY KIDS COALITION, SPRINGFIELD, IL**

Mr. HECK. Thank you for this opportunity to speak to the Subcommittee today.

I am honored by your invitation, and welcome the opportunity to share my experiences as a market farmer, Illinois Stewardship Alliance Board President, and as the Garden Educator for Generation Healthy Kids.

I grew up in the small town of Mechanicsburg, a rural farming community in central Illinois. I attended the Tri-City School Dis-

trict from kindergarten until graduation. I graduated from Southern Illinois University with a Bachelor's of Science and Biological Sciences, and received a secondary teaching certificate. I taught high school and junior high biology, chemistry, and physics.

During my first summer vacation, I began farming part-time on a small scale to supplement my beginning teacher's salary. As my knowledge of direct market farming grew, I realized this could be a viable and fulfilling career, and not just a hobby.

The first season's crops were solely marketed at the farmers' market. I soon realized that market sales are directly proportional to the weather, and inclement weather equals poor sales. It was at this time I decided diversifying farm income was the only way to secure steady income as a direct market farmer.

At first, I introduced myself to chefs in the area and started taking them samples of products. This proved advantageous because several chefs began ordering consistently each week. Sales to retail stores came next, followed by the formation of a community-supported agriculture program. In a CSA model, customers prepay in the winter for a weekly share of vegetables during the growing season. This model aids the farmer by creating a flow of income during the winter months, when income is traditionally scarce.

Diversifying income can increase financial stability, but the reality is a successful operation requires arduous physical labor, and workdays that start at sunrise and easily end after the sun sets. Most direct market farmers are truly passionate about their livelihood, and sacrifice a steady paycheck with higher wages in exchange for the health benefits associated with growing and consuming fresh, nutrient-dense foods, and the amount of healthy physical activity associated with farming.

Last November, I decided to combine my knowledge of farming and gardening, along with my formal education as a science teacher, by joining the staff of Generation Healthy Kids. genHkids is a nonprofit located in Springfield, Illinois. genHkids' Eat Real, Move More Programs teach children and parents the importance of nutrition and physical activity for a healthy life. Our genHkids' programs are visible in more than 30 elementary, middle, and high schools throughout Sangamon County. In 2016, we will have over a dozen school and community gardens. The school gardens are used as hands-on tools for nutrition education. Through the gardens, I have seen firsthand that when children plant the seeds, water the plants, and handpick their own fresh fruits and vegetables, they are actually more likely to eat those fresh and nutritious vegetables. Last season, we saw neighborhood children like Mikey picking and eating whole peppers right off the plants at our community garden in downtown Springfield. It is now a pretty common occurrence to see Mikey grazing on a variety of fresh fruits and vegetables whenever he is at the community garden. The labor in the garden is shared by many members of the community. Last fall, Congressman Davis' staff even volunteered during the National Day of Service. Thank you.

Out Eat Real at School Program is designed to provide nutrition education, skills training, menu planning, and daily menu lesson plans to food service personnel in schools. genHkids aids schools in the transition from a processed, heat-and-serve fast-food menu to

a nutritious, from-scratch menu. Ideally, the next step is to work with schools on procuring fresh, locally sourced ingredients. However, there are still many barriers to overcome, such as easing regulations on farmers to sell to schools, and creating incentives for farmers to diversify their crops. For schools, minimizing barriers such as the bidding process, increasing school lunch reimbursement rates, and providing incentives to schools that source locally.

Through my work as a direct market farmer, as President of Illinois Stewardship Alliance, and now at genHkids, I have seen the demand for increased farm-to-school programs. As a result, I would urge all Members of Congress to support the passage of the Child Nutrition Act reauthorization, in time for it to take effect for the new school year this fall, and to support increased funding for the USDA Farm-to-School Grant Program as part of the reauthorization. With increased resources, organizations like genHkids will be able to work with local schools and farmers to increase the procurement of local produce in schools, which will in turn provide increased financial stability for direct market farmers, and create opportunities for new jobs in the field.

Thank you.

[The prepared statement of Mr. Heck follows:]

PREPARED STATEMENT OF ANDREW HECK, GARDEN EDUCATOR, GENERATION
HEALTHY KIDS COALITION, SPRINGFIELD, IL

Thank you for this opportunity to speak to the Subcommittee today. I am honored by your invitation and welcome the opportunity to share my experiences as a market farmer, Illinois Stewardship Alliance Board President, and from my position with Generation Healthy Kids where I am the Garden Educator.

I grew up in the small town of Mechanicsburg, a rural farming community in central Illinois. I attended the Tri-City school district from kindergarten until graduation. I graduated from Southern Illinois University with a bachelors of science in biological sciences, and received a secondary teaching certificate. I taught high school and junior high biology, chemistry and physics, in addition to leading various extracurricular activities.

During my first summer vacation, I began farming part time on a small scale to supplement my beginning teacher's salary. In 2004, I started selling produce at the Old Capitol Farmers' Market in Springfield, IL. As my knowledge of direct market farming grew, I realized this could be a viable and fulfilling career and not just a hobby. I eased into farming gradually, and diversified my farming income in the same manner. The first season's crops were solely marketed at the farmers' market. I soon realized that market sales are directly proportional to the weather, and inclement weather equals poor sales. It was at this time I decided diversifying farm income was the only way to secure steady income as a direct market vegetable farmer.

At first, I introduced myself to chefs in the area and started taking them samples of products. This proved advantageous, because several chefs began ordering consistently each week. Sales to retail stores came next, and were also not dependent on unpredictable weather.

The next marketing attempt came in the form of selling produce to schools. Unfortunately, the logistics of a direct market farm selling to a school district proved to be challenging. For example, many schools lack required refrigeration to store produce safely. Due to minimal resources available to schools, processing of fresh produce became cumbersome on cafeteria staff.

Then I started a Community Supported Agriculture program. In a CSA model, customers prepay in the winter, for a weekly share of vegetables during the growing season. The duration of a CSA generally coincides with the growing season in a particular geographical region. When the growing season arrives, CSA customers pick up their weekly share of vegetables at the farm. This model aids the farmer by creating a flow of income during the winter months, when income is traditionally scarce. Diversifying income on a direct market vegetable operation can aid in its financial stability, but the reality is a successful operation requires arduous physical

labor, and work days that start at sunrise and easily end after the sun sets on a daily basis.

Most direct market farmers are truly passionate about their livelihood and sacrifice a steady paycheck with higher wages in exchange for the health benefits that are associated with growing and consuming fresh, nutrient dense foods, and the amount of healthy physical activity associated with farming.

For the past 3 years, I have served as a board member for the Illinois Stewardship Alliance. Several weeks ago I was elected as the Board President. Illinois Stewardship Alliance is a statewide nonprofit organization, headquartered in Springfield Illinois whose mission is to promote environmentally sustainable, economically viable, socially just, local food systems through policy development, advocacy, and education. Illinois Stewardship Alliance envisions a system where soils are treated as a precious resource, local food producers earn a fair, living wage, local food education is integrated into all levels of education, and infrastructure is rebuilt to accommodate local food systems and good food is available for all.

Illinois Stewardship Alliance's Buy Fresh Buy Local campaign was and is still integral in connecting new and existing farmers with potential marketing opportunities. This campaign enabled me to meet and create working relationships with several local chefs, retail outlets, and created an outlet to advertise our CSA which sold out surprisingly fast its first year. Fortunately the CSA members are quite loyal and many of the original families still participate in the program 8 years later.

Last November, I decided to combine my knowledge of farming and gardening along with my formal education as a science teacher. I joined Generation Healthy Kids as the Garden Educator. genHkids is a nonprofit located in Springfield, IL. genHkids mission is to create a generation of healthy kids through education, empowerment, improved nourishment and increased physical activity. The genHkids Coalition was founded by Kemia Sarraf, M.D., M.P.H. in partnership with a wide array of local organizations, associations, public health institutions, businesses and educational establishments. Since its inception, the genHkids Coalition has generated tremendous excitement in the region with its hands-on, grassroots approach to improving child health. The genHkids Coalition is comprised of health professionals, educators, fitness experts, nutritionists, parents, and other concerned citizens, all dedicated to creating generation Healthy.

Today, genHkids is a leading voice in Sangamon County with regards to the promotion of childhood wellness programs, having created and implemented more than a half-dozen early childhood education, physical activity, nutrition-based and community programs. Our genHkids programs are visible in more than 30 elementary, middle, and high schools throughout Sangamon County.

As garden educator, I visit several schools on a weekly basis to implement the Grow Your Grub curriculum. In addition, I oversee the weekly activities and duties of our community gardens.

Through genHkids' community gardens, we grow sustainable and beautiful gardens in Springfield in full partnership with families who live around the gardens. In 2015, we harvested over 2,000 pounds of food that was either used in our cooking programs or given back directly to the community. Community participation is a critical component in creating a garden that is maintained by surrounding residents. genHkids' farmers organize and encourage these community gardens, engage participant families and educate and empower garden participants. genHkids Educators and Chefs provide training in school kitchens on how to prepare meals from the harvest, and how to preserve surplus for the winter.

In the long-term, genHkids envisions community garden locations throughout Sangamon County, including numerous additional sites on Springfield's east side, providing participants with increased access to fresh produce, nutrition and stewardship education, skills training and strengthened neighborhood social networks.

In addition to community gardens, genHkids has built more than a dozen school gardens with our partner school districts. Schools benefit from genHkids' experience in garden creation, funding assistance, location selection, design, building, planting, education of students, harvesting and consumption of that harvest by students. Vegetable gardens connect children with the source of their food, introduce new flavors and textures, provide physical activity, and expand math, science and reading curriculum to real world situations. Our Grow Your Grub program teaches children to grow their own food, provides lessons in nutrition and stewardship, and allows them to harvest food and sample the fruits of their labors.

I have seen first hand that when children plant the seeds, water the plants, and then hand-pick their own fruits and vegetables, they are much more likely to actually eat fresh and nutritious vegetables. Last season, we saw neighborhood children, like Mikey, picking and eating whole peppers right off the plant at our community garden in downtown Springfield. His mother was very surprised and exclaimed that

she was pretty sure that was the first time he had ever eaten a fresh pepper. It is now a pretty common occurrence to see Mikey grazing on a variety of fresh fruits and vegetables whenever he is at the community garden. The labor in this garden is shared by many members of the community, including Representative Davis's staff, who volunteered at our community garden in downtown Springfield during last years' National Day of Service.

genHkids Eat Real at School Program

We envision schools where children gather in the cafeteria twice daily to consume nutritious and delicious foods prepared from-scratch, and every calorie served the children is nutritive, nourishing their growing bodies and minds.

What is Eat Real at School?

genHkids' Eat Real at School program is designed to provide nutrition education, skills training, menu planning and daily menu "lesson plans" to food service personnel in schools. genHkids aids schools and districts in the transition from a processed, "heat and serve" fast food menu to a nutritious, fresh and seasonal from-scratch menu. The program also encourages schools to transform their cafeterias into additional classroom environments, educating children about the food on their trays and encouraging the consumption of fresh, new offerings. A logical next step for genHkids farm to school program is to incorporate local foods into these menus by substituting non-local items with products sourced from local farmers. Many of our schools also have salad bars which are the perfect opportunity to serve locally grown produce. With access to locally sourced ingredients, schools can develop new recipes and expand educational opportunities such as Harvest of the Month programs featuring local farmers.

To educate the parents on the importance of supporting the from scratch lunch menu, genHkids implemented a program called Destination Dinner Table. Destination Dinner table is an evening cooking program with the parents and children incorporating fresh seasonal produce into recipes that they can prepare at home. genHkids' staff and volunteers work with the children, teaching them to set the table, working on basic etiquette, playing nutrition games and participating in Brain Breaks. When the meal is ready, all participants sit down to eat together family style. At the program's conclusion, parents leave with important nutritional information, a weekly menu and shopping guide, and a sense of accomplishment and increased confidence in their ability to cook at home.

One of the most important steps families can take to improve their overall physical health is to begin preparing and eating from-scratch meals at home. The health community has become increasingly aware that the quality of calories we consume matter as much as the quantity of those calories. Cooking at home with fresh, real (unprocessed) ingredients is the best way to ensure your children are consuming high quality, nutrient-dense calories.

Unfortunately, over the past 30 years the number of parents who feel secure and competent with basic food preparation has declined. Many parents feel they lack the skills necessary to cook a nutritious meal, in a timely fashion, within their budget—especially one that their children will eat!

In the 2014–2015 school year genHkids saw an increase in the number of Eat Real at School programs. In its second year at Ball-Chatham Elementary, genHkids supported menu development and training for kitchen staff. The district served 252,654 made from-scratch lunches, an incredible increase of 45% over the prior year. At the same time, the district saved 10% in its food acquisition costs over the prior year.

One of the most common concerns that parents and schools have with the implementation of new, healthier items on school lunch menus is the possibility of increased food waste due to the preferences of children for familiar, less healthy items. genHkids has undertaken several measures to combat plate waste in schools where we operate.

Using grant funds, genHkids staff planned a plate waste study protocol measuring food waste before and after the implementation of new menu items and programs. Food items were weighed before and after food service, and the results gathered included several pieces of data around the amount of food served, the amounts wasted before and after interventions, and the factors impacting food waste.

Interventions to promote healthier food include school gardening classes, cooking classes for children and parents, "cafeteria coaching" where adults eat alongside children, recess before lunch, elimination of food or treats as rewards during the day, and school staff training and education.

Conclusion

Through genHkids Eat Real at School program, we aid schools in the transition from a processed, “heat and serve” fast food menu to a nutritious, from-scratch menu. Ideally, the next step is to work with the schools on procuring fresh, locally sourced ingredients.

However, there are still many barriers to overcome such as easing regulations on farmers to sell to schools and creating incentives for farmers to diversify their crops; for schools, minimizing barriers such as the bidding process, increasing school lunch reimbursement rates, and providing incentives to schools that source locally.

Through my work as a direct market farmer, as President of Illinois Stewardship Alliance, and now at genHkids, I have seen the demand for increased farm to school programs.

As a result, I would urge all Members of Congress to support the passage of the Child Nutrition Act reauthorization in time for it take effect for the new school year this fall, and to support increased funding for the USDA Farm to School grant program as part of the reauthorization. With increased resources, organizations like genHkids will be able to work with local schools and farmers to increase the procurement of local produce in schools.

ATTACHMENT

Hon. RODNEY DAVIS,
Chairman,
 Subcommittee on Biotechnology, Horticulture, and Research,
 Committee on Agriculture,
 U.S. House of Representatives,
 Washington, D.C.

Dear Chairman Davis:

My name is Kayla Worker and I am a Family and Consumer Science teacher at Springfield Southeast High School in Springfield, Illinois. I first became involved with genHkids in June 2015. As a teacher, I’m privileged to have summers off to pursue personal interests and become more educated in my practice. I wanted to expand my knowledge of gardening for quite some time because of it’s practical application in cooking and many nutritional benefits of fresh produce and herbs. I hoped to supplement my Nutrition and Culinary Arts I and II classes with this education. genHkids had developed an empty lot about a mile from my house into a community garden. It became the perfect opportunity for me to learn more about gardening, and fortunately for me, much more.

Through volunteering at the community garden on 3rd Street and Canedy Street I was able to get to know the genHkids staff. The organization brought nutrition access and education to kids in Springfield area, just like I did as a Family and Consumer Science teacher. genHkids had something I didn’t have—gardens. Gardening allowed kids to take ownership over the healthy foods they would eventually happily eat. Getting kids to eat healthy foods is hard. Every year I have a new recipe for my students to try to get them to try more vegetables. Some liked the foods but some refused to try them. The kids in the genHkids garden would pluck tomatoes, cucumbers, and peppers right off the plant and eat them! It was amazing.

I asked the executive director, Jen Dillman, who I had become friends with through our biweekly gardening sessions, how a school could get a garden. Soon after, we were planning a garden at Springfield Southeast High School for my students to use in the Nutrition and Culinary Arts classes and for the rest of the school to utilize. When the word got out that there would be a school garden, teachers began planning ways to use it in their curriculum. The biology teacher asked me about using it for his photosynthesis unit, the chemistry teacher asked if she could get compost worms to do a unit on breaking down food, the art teacher asked if her students could paint and mosaic in the garden, and the list goes on.

None of this would have happened without genHkids. They were there to help me plan the garden, build the beds, raise money for the garden (we’ve raised \$3,200 so far!), and educate the students and me about gardening. The gardening education is beginning before the gardening season with the Grow Your Grub curriculum being taught to 20+ students an hour every week led by genHkids staff.

I’m so excited for all of the good times, education, and exposure this garden will provide for students at my school. This organization has made such an incredible impact in my life, in my students’ lives, and in the city of Springfield. I know with increased access to funds and resources this organization will continue impact the

lives of many children and families in Sangamon County and beyond. Please feel free to stop by the Spartan Garden this spring to see the garden in action.

Very Sincerely,

KAYLA WORKER.

The CHAIRMAN. Thank you very much, Mr. Heck.

I would like to now welcome Ms. Coffin to the witness stand. And thank you very much for being here. You are free to offer your opening testimony.

STATEMENT OF CLARISSA “CRIS” COFFIN, J.D., POLICY DIRECTOR, LAND FOR GOOD, KEENE, NH

Ms. COFFIN. Thank you very much, Mr. Chairman.

My name is Cris Coffin, and I am here today wearing three hats. I work for Land for Good, which is a New England-based land access organization. I also work with Farm to Institution New England, a network of organizations looking to source more local and regional food to New England institutions. And last, I am a part-time beginning farmer who direct markets pastured chickens and eggs in Massachusetts.

New England, not surprisingly, is a leader in direct market sales. My testimony goes through some of those statistics. A quarter of farms in New England direct market.

I want to talk a little bit about what we see as the benefits and opportunities in direct marketing. First, important in our region, direct market opportunities are fueling the growth in new farms and farmers. Over 25 percent of our farmers in the region are beginners, and gravitating to commodities that can be easily direct marketed. Forty-one percent of vegetable farms in the region are managed by beginning farmers, and 39 percent of those farms, beginners are marketing poultry and eggs.

Second, direct marketing is really helping to expand healthy food access. You see it in the growth of mobile markets that are specifically serving low-income and senior communities. You see it in the growth of nutrition incentive programs around the region, and the new trend is CSA farms that are financing low-income and elder shares by getting donations from their CSA members and from community organizations.

Third, the value of direct marketing to consumer education is really important in a region where farms are surrounded by non-farming neighbors. Every direct sale is an opportunity to educate a neighbor and a consumer about farming practices and farming challenges, and it is building support for agriculture.

So looking forward, in the region for us, the demand particularly is in these kind of intermediated markets that are to restaurants and to institutions. The institutional demand and growth has been significant. New England institutions represent a \$1 billion annual food buy. UMass has been doing terrific things in increasing its purchases of local produce. Colby-Sawyer in New Hampshire is purchasing 25 percent of its produce locally, and the University of Maine System has announced big plans to do so as well. So we see this as a continuing growth.

When you look at the programs that have been hugely important to this market development in the region, Specialty Crop Block Grants, Value-Added Producer Grants, Farmers' Market and Local

Food Procurement Program, Federal-State Marketing Improvement Program, and like Mr. Heck mentioned, the importance of the Farm-to-School Grant Program. I would say there are also additional opportunities in the Child Nutrition Act to make some tweaks on the geographic preference provision that would help encourage local procurement, and a tweak to the DOD Fresh Program that would do the same.

Finally, let me just take a minute to talk about some of the challenges that we see in the direct marketing arena, and, in fact, this is in sort of farming generally in New England. One is access to land, we are a land-constrained part of the country anyway, but with $\frac{1}{3}$ of our farmers looking to retire in the next 20 years, that is a lot of land that is going to transition, and could transition out of agriculture, unless we take steps to offer a secure exit for those farmers and to provide new opportunities for beginning farmers. So programs on that front that are very important are the Beginning Farmer and Rancher Development Program. We hope that the new farm bill will increase funding for that, and the Agricultural Conservation Easement Program that is through the Ag Land Easement Subprogram, purchasing development rights from farmers.

A couple of others: As was mentioned by Mr. Tonnemaker in terms of food safety, the Food Safety Modernization Act will be a lot of additional requirements for our mid-sized farms, and funding to support training for these farms on those requirements will be critical. Livestock slaughter and processing: biggest issue for us as a beginning poultry farmer, and getting USDA to be more of an advocate in working with some of the small and very small processing plants will be important. And last, in terms of climate change and risk management, as we see more extreme weather events, bringing greater production risk and new plant and disease issues around warming temperatures, the importance of a whole farm revenue protection product that works for our region will be important, and continued funding for conservation programs that help improve soil health and reduce risk.

So thank you very much. It was great to have a chance to share my thoughts.

[The prepared statement of Ms. Coffin follows:]

PREPARED STATEMENT OF CLARISSA "CRIS" COFFIN, J.D., POLICY DIRECTOR, LAND FOR GOOD, KEENE, NH

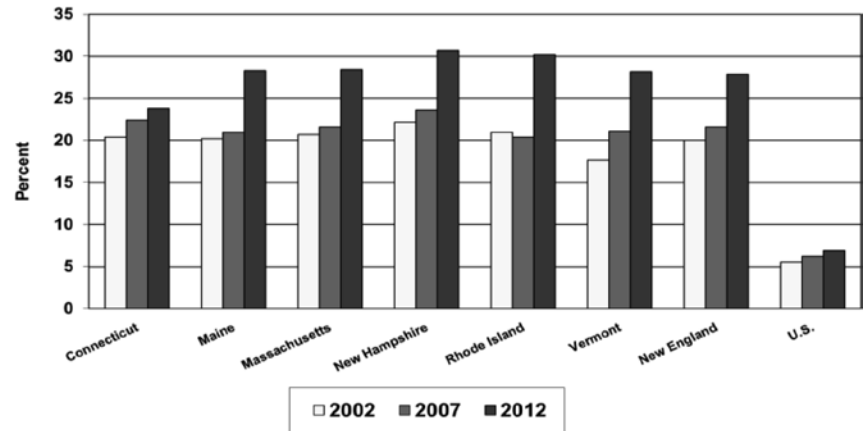
Good morning! I appreciate the opportunity to testify before the Subcommittee on an issue of importance to farmers and farming in New England. My name is Cris Coffin, and I am here today wearing three hats: as Policy Director for *Land For Good*, a New England-based nonprofit whose mission is to ensure the future of farming in the region by putting more farmers more securely on more land; as a member of the Network Advisory Council for *Farm to Institution New England*, a regional network working to increase the amount of New England-grown and processed food served in our region's schools, hospitals, colleges and other institutions; and as a beginning farmer who markets pastured chicken and eggs to schools, restaurants and stores in Massachusetts.

Opportunities

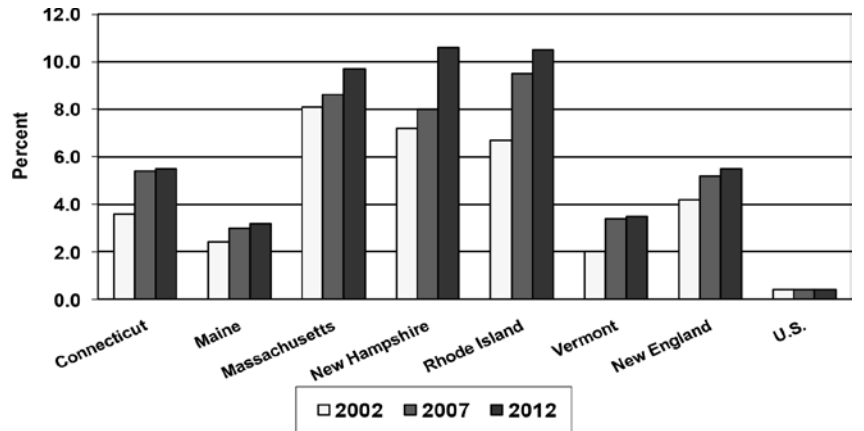
As a region with 14 million consumers and three of the four most densely populated states in the U.S., New England offers tremendous direct market potential, and farmers have been successful at tapping it. As the chart below shows, New England has a significantly higher percent of farms with direct sales than the U.S. has as a whole: in fact, New England states rank 2nd through 7th in states with the highest percent of farms with direct sales (New Hampshire is second, at 31%; Mas-

sachusetts fourth, at 28%). Importantly, New England also has a higher percent of farms with wholesale direct to retail, or what the Economic Research Service calls “intermediated sales”—meaning direct sales to retailers, restaurants, food service distributors, schools and other institutions. Thirteen percent of farms in New England market through this channel, compared to just 2% nationally. And New England has more than twice the number of farms selling value-added products than the U.S. has as a whole (11.3% compared to 4.5%).

Percentage of Farms with Direct Sales—New England States and U.S. 2002, 2007, and 2012 Census of Agriculture



Percentage of Total Market Value of Agriculture Sales from Direct Sales, New England States and U.S. 2002, 2007, and 2012 Census of Agriculture



While direct market sales represent a relatively small portion of total sales across the region, these sales have been solidly growing in New England for more than a decade. And for some commodities, notably vegetables, direct sales are a significantly higher percent of total sales. In Massachusetts, for instance, 30% of all vegetable sales are from direct market sales. Perhaps not coincidentally, Massachusetts has the largest percent of Community Supported Agriculture (CSA) farms in the country and over 250 three-season farmers’ markets. New Hampshire has over 23 winter farmers’ markets.

Direct market opportunities have helped attract new farmers, both regionally and nationally. Nationally, beginning farmers produced 15% of the value of agricultural products sold in 2012, but 22% of the value of direct to consumer sales. In New England, beginning farmers (with 10 years or less experience on any farm) now represent 25% of principal operators and are gravitating to commodities that are easily

direct marketed. According to the 2012 Census of Agriculture, 41% of vegetable farms (identified as such through the North American Industry Classification System, or NAICS) in the region are operated by beginners, as are 39% of poultry and egg operations. Speaking as a beginning farmer, 100% of our sales are through direct or intermediary markets.

Direct marketing has also expanded healthy food access while boosting farm sales. Nationwide, there are now 512 farmers' markets that now offer SNAP matching incentives, and four out of five markets double SNAP benefits. In Massachusetts, 180 farmers and farmers' markets, including mobile markets that specifically serve low-income and senior communities, accepted Electronic Benefit Transfer (EBT) for SNAP in 2014, up from just 24 in 2008. A new trend is CSA farms financing low-income and elder shares by seeking donations from their CSA members and from community organizations. In 2015, Community Involved in Sustaining Agriculture, or CISA, reported that 12 CSA farms worked with them to provide 400 farm shares during the summer to low income elders in three western Massachusetts counties.

The value of direct marketing to consumer education cannot be overemphasized, especially in a region where most farms are surrounded by non-farming neighbors. In a society where consumers are largely disconnected from agriculture, every direct sale is an opportunity to educate a customer about farming practices and challenges, helping to improve consumer understanding and build support for farming and farmers. State and local branding programs and "buy local" organizations are helping to connect consumers with direct market farms; as importantly, many focus on helping consumers understand the benefits of buying local. For instance, CISA has developed a local food calculator that allows consumers to estimate the economic impact of their local food purchases. According to the calculator, if every household in Massachusetts spent \$20 more on local food per month (and \$20 less on non-local food), \$234,768,540 more local income would be generated per year and 3,876 local jobs would be created in the Commonwealth.

Looking ahead, demand for local, regional and source-identified food appears likely to continue. At the top of the National Restaurant Association's "What's Hot: Top 20 Food Trends for 2016" is locally-sourced meat and seafood, followed by locally grown produce at number three, and hyper-local sourcing at number four. Creative efforts are underway around the region to capture this demand: New Hampshire, for instance, has created a "Certified Local" restaurant certification program.

Institutional demand for local and regional food continues to grow as well. Accordingly to Farm to Institution New England, the region's schools, universities, hospitals, nursing homes and other institutions regularly feed 3.8 million people, or $\frac{1}{4}$ of the region's consumers, with an annual food buy of over \$1 billion. The University of Massachusetts, with the country's largest dining service with over 17,000 students on meal plans, has doubled its purchases of local produce since 2004, with local produce now representing 30% of its \$2.6 million annual produce budget. In 2012, Colby-Sawyer College in New Hampshire established a goal of having 20% of its food served on campus coming from farms within 100 miles. In 2014, the college exceeded that goal by sourcing over 25% of its food locally. And this summer, the University of Maine System announced plans to increase its purchases of local food to 20% by 2020, amounting to a likely \$1.5 million local food buy.

A number of farm bill programs have been instrumental in the growth of direct markets in New England, and robust funding for these programs continues to be critical. These include *Specialty Crop Block Grants* and *Value-Added Producer Grants*, the *Farmers' Market and Local Food Promotion Program*, and the *Federal State Marketing Improvement Program*. Similarly, the *WIC Farmers' Market Nutrition Program* and *Senior Farmers' Market Nutrition Program* are helping boost local food sales and bring healthy foods to low-income communities, and the *Food Insecurity Nutrition Incentive Grant Program* promises to do the same. In the institutional food arena, the *Farm to School Grant Program* and the *geographic preference provision* in the school lunch program have educated and enabled food school directors to buy and prepare more local and regionally-grown foods. The *Child Nutrition Act Reauthorization* offers an important opportunity to expand funding for Farm to School grants, and to make a couple of statutory tweaks to encourage local food procurement. These include changing the geographic preference provision to specifically allow "local" as a product specification for school food (provided that competitive bidding is maintained), and allowing minimally processed produce under the *DOD Fresh Program*. Anything Subcommittee Members could do to reach out to your colleagues on the Education and Work Force Committee to support these changes to Farm to School in the Child Nutrition bill would be a great help in promoting these important markets

Challenges

Wearing my various hats, I'd like to speak to four challenges I see related to direct marketing in the region, and to the viability of farms generally. A significant number of New England farms rely still on wholesale markets, and the continued viability of these farms is essential to support the region's agricultural infrastructure. Many farms in fact sell through all three market channels—direct, intermediated, and wholesale. This market channel diversification is an important risk management strategy.

Access to land: In a region with a limited land base and some of the highest land values in the country, access to land is already a major barrier for both farm entry and expansion. The growing demographic of senior farmers and non-farming landowners may make this barrier even higher. As the attached fact sheet from American Farmland Trust and Land For Good details, over the next 10–20 years 30% percent of principal farm operators in the region are likely to exit farming. The 1.4 million acres they manage and \$6.45 billion in land and agricultural infrastructure they own will change hands in one way or another. Strategic investments and policy changes will be needed to help facilitate this transition in a way that keeps farmland in farming, offers seniors a secure exit from farming and provides opportunities for next generation farmers. In focus groups we conducted with older farmers without identified successors, we found that participants want to see their farms remain in agriculture but see a number of challenges to doing so. Many said that they need to extract equity from their land for retirement, are not sure how to find a farm successor, don't know about farm transfer options, and were concerned about the future viability of their operation for the next generation. The following strategies could help address their concerns and help next generation farmers gain access to land:

- *Encourage secure tenure and paths to ownership for next generation farmers, and foster land availability.* The **Beginning and Rancher Development Farmer Program (BFRDP)** has funded a number of valuable land access initiatives, including Land For Good's New England Land Access Project. This project is focused both on providing this type of support for beginning farmers, and on increasing outreach and assistance to older farmers around succession planning, farm transfer strategies, and identifying a suitable successor, transferee, or tenant. BFRDP, however, is under-funded and needs to see a substantial increase in the next farm bill to address the country's critical need for a new generation of farmers.
- *Increased funding for the **Agricultural Conservation Easement Program (ACEP)**, especially the **Agricultural Land Easements (ALE)** portion of ACEP.* The purchase of agricultural conservation easements is an important farm transition strategy, offering exiting farmers equity for retirement while reducing the cost of land for new or established farmers.
- *Incentivizing succession planning* through Federal farm programs.

Implementation of Food Safety Modernization Act: Many questions remain about how FSMA will be implemented and the affiliated costs to farmers and state agencies. Mid-sized farms marketing through direct and intermediated channels and those seeking to scale up to do so will likely need to implement new practices and add to existing farm infrastructure. Funding to support training for these farms in FSMA requirements will be essential.

Livestock slaughter and processing: As a small-scale poultry grower seeking to scale up, the cost and availability of slaughter and processing are significant barriers. Last year, the closest USDA-inspected poultry processor to us was over 100 miles away. While we could invest in our own facility, we would be unable to process anything but whole carcasses and unable to sell across the state line that sits 10 miles to the north. Solutions are complicated, but encouraging state meat and poultry inspection programs would help, and could enable more poultry and livestock producers to direct market their products across state lines. It would also help if the Food Safety Inspection Service would work directly with small and very small processing plants to address the specific issues they face.

Climate change and risk management: According to USDA's Northeast Regional Climate Hub, the Northeast has seen a 73% increase in extreme weather events; Hurricanes Irene and Sandy are illustrative examples. While extreme weather brings greater production risk, rising temperatures are bringing new pest and disease pressures. To address these, the following will be important:

- ***Whole Farm Revenue Protection** that provides a reliable and affordable safety net for the type of diverse farm operations in our region.*

- *Robust funding for Conservation Technical Assistance, Conservation Stewardship Program, the Environmental Quality Incentives Program, and full implementation of Regional Equity.* Conservation planning and practices will be needed to improve soil health and resiliency to changing and extreme weather. Regional equity remains important to ensure that conservation dollars continue to flow to smaller states where demand for conservation programs is strong; an analysis of the provision's implementation since the statutory changes in the last farm bill would help to understand how, if at all, conservation funding levels have changed in Regional Equity states.

I appreciate this opportunity to testify today, and am grateful to Members of the Subcommittee for their interest in understanding the opportunities and challenges around direct marketing.

The CHAIRMAN. Thank you very much. I look forward to working with you and my colleague from your home state, Mr. McGovern, on some of those tweaks to the Child Nutrition Act, and also looking ahead to the next farm bill. Thanks for your comments.

Mr. MCGOVERN. I just hope you appreciate, we have agriculture in New England.

Ms. DELBENE. Yes.

The CHAIRMAN. I did see the witness list and I was, frankly, shocked, but that is okay, we don't count grocery stores in Illinois as agriculture.

Thank you for being here, and thank you for putting up with our banter back-and-forth too. It is actually a privilege to serve with these Members here on this Subcommittee, and I hope you get a chance to see that.

Dr. McCloskey, the producer of one of the products that quickly gets into my refrigerator and quickly leaves, because I have two children who are freshmen in high school that like to drink a lot of your Fairlife milk. So I would like to give you the opportunity to give your opening statement now.

STATEMENT OF MICHAEL J. McCLOSKEY, D.V.M., CO-FOUNDER, FAIR OAKS FARMS; CHIEF EXECUTIVE OFFICER, SELECT MILK PRODUCERS, FAIR OAKS, IN

Dr. McCLOSKEY. Well, thank you. And thank you for having us, and this is just a fantastic opportunity for farmers and everyone on the Committee and the legislature to be able to have these type of discussions because of the importance of this interface more and more every day.

I would like to share a little bit about my journey. It starts years ago in the 1980s with my wife and I. I come from a science background, I am a veterinarian, with a specialty in food animal production. I always have dedicated my career to food-animal production, medicine, and had a practice in southern California basically focused on dairy production.

In the mid 1980s, my wife and I decided that we would like to get into our own dairy farming. We started with a very small farm of 200 cows, and basically applied the principles that I believe belong to every farmer, and we are hearing it here today as we listen to the presenters, and that is the core values of our concern of safety of our product, a very high quality in our product. In our case where we deal with animals, of animal care and welfare, and for sure of environmental care as well, and of the people who work with us, the importance of their well-being, together with our community. So these are the core values that I believe belong to all

farmers in this country, and that are very important that we get an opportunity to share these values with the consumer.

As you know, today, 98 percent of the population is isolated from farming, and there are a lot of things that are said out there that are misconceptions and, unfortunately, they are being used for competitive reasons and agendas that may be different than what particular farmers may be dedicating their life to. But those core values are there, and those core values were in the initial small farm that my wife and I started with. Because we were successful, and we have really focused on what we did, and we started with the core values, we have been able to grow the business substantially since that moment.

Today, Fair Oaks Farms, which is our home dairy, is in Indiana, it is an operation that—there are 36,000 milking cows. We are open to the public. We have 28 million people within a 200 mile radius of our farm. We decided back in the early 2000s that it was very important to share what we do in farming with the community, and we have opened our farm to the public. Again, we have about 500,000 people visit our farm every year, and they get to see absolutely everything through the farms and what we are doing. It has been quite attractive to other people in agriculture, so we have opened a hog operation with 3,000 farrowing sows, which was very well accepted by the community, and the visitation we are adding now layers about 600,000 with a large company. Indiana is a very productive area in animal agriculture and farming, as you all know, and Fair Oaks Farms we are hoping is a center to be able to share with the community and the consumer what we are doing in agriculture.

What is most important to me, as I sit with the other presenters here, is to share with you that all farming is good. Organic is important. Modern farming practices are important. Small is important. Local is important. Large is important. Far away is important. What is *local* and *far* is can be defined in many, many ways. We can't grow oranges in Indiana, but we can grow them in Florida. And we need to define what *local* and *far away* is and what the benefits are.

We have a tremendous challenge as farmers. We have to be able to protect this environment. We have to take care of our animals. But at the same time, we have to be productive. We have a growing hungry world population, and we have to be able to feed them without cutting down one more tree, while cleaning up every one of our streams, while cutting our emissions dramatically, while caring for our animals, while creating a very safe, high-quality, and affordable-for-all food, and we have to do this in a short time-frame. We cannot fight against each other in the farming community. We cannot talk bad about each for marketing purposes. We cannot be saying that the true science that is safe, that is productive, that allows us to be sustainable, we cannot continue to drive those things down. We must continue to grow as an agriculture community together. It is going to take every single one of us as farmers, in the United States and worldwide, to meet the challenge that we have, while protecting the environment.

We do some great things in large-scale at Fair Oaks Farms. We produce 100 percent of the fuel from manure that takes our milk

to market. That is 12 million miles a year that we produce in our digesters, renewable, natural gas that runs 42 of our trucks to market. We produce our electricity for our farm from that. We capture the nutrients of nitrogen phosphorus to avoid them from being a run-off or leaching into our waterways, and manage them as a fertilizer in a more appropriate way. There are great things happening in agriculture, great technology that is occurring. We have to embrace technology but it has to be safe, science-proven technology. We have to learn how to convey these concepts to consumers because it is confusing to them. And we can't allow ourselves as agriculture people to be the people that are confusing the consumer because of competitive issues. We have to embrace, all of us together, to get to this end.

Thank you.

[The prepared statement of Dr. McCloskey follows:]

PREPARED STATEMENT OF MICHAEL J. MCCLOSKEY, D.V.M., CO-FOUNDER, FAIR OAKS FARMS; CHIEF EXECUTIVE OFFICER, SELECT MILK PRODUCERS, FAIR OAKS, IN

As an 8 year old boy whose father had just passed away and whose mother, through necessity of providing for her six children, uprooted her family from Pittsburgh back to her native Puerto Rico, I was lost. Fortunately, my veterinarian uncle took me under his wing and it was through the many days of accompanying him on farm visits and tending to our own small but diverse farm with everything from chickens to pigs to cows, that I learned to understand and appreciate the blessings that animals provide us. I understood that the better these animals were taken care of, the better they were able to provide for us.

This fascination with animal agriculture continued throughout my life it culminating in having a successful and respected dairy centric practice in Southern California through the 1990s. It was here that I helped dairy farms grow milking a few hundred cows to a few thousand. And it was during this time that I partnered in my first dairy farm of 300 cows.

Today, my partner and I milk over 15,000 cows. What's particularly interesting is that even though we are considered by many to be a factory farm, our values, our principals and our knowledge of how to care for our animals, farm with environmental sensitivity and produce a safe and nutritious food has only grown by leaps and bounds since the days of being a "small" farmer.

In this day and age in the U.S.A., less than 2% of the population is directly involved in agriculture. The vast majority of farms are family held and are multi-generational. Farmers, both large and small, are the ultimate environmentalists, the providers of our sustenance and the backbone of the civilized world. We used to be a respected lot but, today, we find ourselves at the scrutiny of every person with access to an ever growing body of information and communication.

And, that's not a bad thing.

It was because of this ability to broadcast information through modern media and the Internet that in the 2000s we farmers had to pull our heads out of the sand and realize that we had a responsibility to communicate with the consumer. We could no longer just assume that the consumer had faith in our practices and products. We need to speak as loud or louder than the large acronym organizations who, in many cases, screamed outright lies about our farms.

So in 2004, I, along with my wife and fellow dairy farmers, founded Fair Oaks Farms, an agritourism attraction in Northwest Indiana. We started with a few exhibits, a movie and a bus ride through one of our dairy farms. We invited the public to come learn and see for themselves how we, as large, modern dairy farms, took care of our animals, our land and produced a safe and nutritious food for their families. We believed that by allowing the public to have access to our farms and by communicating our values to them directly from our mouths that we could, at the very least, provide some counter to the misperceptions and mistruths that are rampant and so easily embraced by today's consumer.

Last year, we had nearly 500,000 people visit our campus. We have added attractions that include a modern 3,000 sow pig farm, a pork education center that is a fun, kid-centric experience, a state of the art egg laying barn, our own orchard and vegetable farm and a caf serving our own cheese and ice cream. Winfield Solutions, a subsidiary of Land O' Lakes, is set to open their Crop Adventure this year, a

10,000² experience highlighting the story of soil, seed and sustainability. And to finish your day, a true farm-to-table restaurant where most of the menu is sourced from less than a mile away on our own beef, dairy, pig, chicken and vegetable farms.

What we have found over the last 12 years and millions of visitors is that the average consumer simply wants to know that we, as farmers, are doing our best and looking to be better everyday. Yes, they are amazed by our manure digesters that produce electricity and a renewable fuel that replaces 2 million gallons of diesel fuel annually. Yes, they smile and laugh at the antics of the baby pigs. Yes, they marvel at watching a dairy calf being born right in front of their eyes. But, in our minds, our biggest satisfaction and accomplishment is that our visitors walk away trusting that we are doing right by our animals, our land, our employees and by our communities. And, we couldn't be more proud.

But while we, at Fair Oaks Farms, have been able to persuade the consumer that big is not bad (and can actually enact many progressive practices because of the scale of economy), we still promote that a farmer is a farmer is a farmer, whether they are milking 50 organic cows or 15,000 conventional cows. We believe that it will take all kinds of farming and farmers to feed our growing planet; from small to large, organic to conventional, from the wheat fields of Kansas to vertical farming in a warehouse in Chicago. We believe that modern farming provides us, the citizens of the United States with an abundance of choice, a luxury of affordability and a security of safety that no other country has. We as an industry need to speak this same message to consumers and to support each other's practices and products. It does no one any good to be divisive or to cast doubt about the safety of our food production and our regulatory bodies should act accordingly. There is enough misconception and misunderstanding coming at the consumer from all angles. It should be every organization's goal to foster a sense of security for the consumer while allowing them access to all the information they need in order to develop their own opinions.

We have recently seen the benefits of this active transparency in our cooperative's health and wellness subsidiary, Fairlife, a company based on innovation that produces high protein, low sugar, lactose free milk products. The fact that the consumer has an open invitation to visiting one of the farms and directly speaking to the farmers that provides the milk for Fairlife is unheard of. It has been an incredible marketing tool that, we believe, has been so successful because it is so authentic and sincere. We also believe in bringing the consumer along on our journey, in sharing with them our knowledge and innovation and in providing them with everything that they need to feel confident that we have their family's health and wellness at the forefront of our endeavors.

To conclude, we at Fair Oaks Farms and our sister company, Fairlife, believe that transparency and an authentic voice are the new tools that should be in every farmer's toolbox. We believe that all agencies, from our cooperatives to the USDA, should work together with the single intention of ensuring the consumer that all farmers and farming practices are safe and that there should be no divisiveness that would confuse the consumer in an already cluttered world of information.

The CHAIRMAN. Thank you, Dr. McCloskey.

Mr. McMicken, welcome. It was great to meet you. Feel free to give your opening testimony.

STATEMENT OF JOHN McMICKEN, CHIEF EXECUTIVE OFFICER, EVERGREEN COOPERATIVE CORPORATION, CLEVELAND, OH

Mr. McMICKEN. Okay, thank you.

Good morning. My name is John McMicken. I am the CEO of the Evergreen Cooperative Corporation, and I also serve as the President of Green City Growers, which is a hydroponic, worker-owned farm in downtown Cleveland, Ohio. I appreciate the opportunity to participate here today.

I would like to start with a little bit of a background on Evergreen. Evergreen is a nonprofit organization. We have a wealth-building strategy that we started in 2009. This was started by a group of Cleveland's major, what we call, anchor institutions. So this is University Hospitals, the Cleveland Clinic, Case Western Reserve University, and the Cleveland Foundation. The City of

Cleveland and its mayor have also strongly supported this initiative along the way, and all of our anchors continue to support these businesses as both customers and as board members.

Our wealth-building strategy is to start new businesses in downtown Cleveland, which will create living wage jobs, along with health benefits and special programs like our unique Home Buying Program, and most importantly, this is an equity-building strategy wherein the profits are shared with our employees. Eighty percent of our three companies are owned today by our employees.

Along with our greenhouse, which I will talk about here in a moment, we have a commercial laundry operation, and a solar and LED lighting operation, which to date have created 110 jobs. Ninety percent of our employees reside in the City of Cleveland, 85 percent are minority, nearly 40 percent are returning citizens formerly incarcerated for nonviolent offenses, and 21 of our employees, our worker-owners, have now purchased their own homes in the city of Cleveland, which they will own outright in 5 years or less.

As an overview of our greenhouse, this is a 250,000² facility, with close to 3½ acres of growing area under glass. At the time that we built this in 2012, it was the largest food production facility of its kinds in a core urban area. We have the capacity of about three million heads of lettuce per year, and about 300,000 pounds of herbs. We are situated on a 12 acre brownfield site in Cleveland's central neighborhood. This was the former location of a disinvested neighborhood with about 40 vacant homes, all of which we acquired, demolished, remediated the land, and built this greenhouse.

Today at the greenhouse, we have 38 full-time employees. We are at about 75 percent capacity. We grow ten varieties of leafy greens and a variety of herbs. We have about 25 commercial customers within about a 250 mile radius.

So this is a hydroponic facility. We have horizontal growing pools of purified water. No soil involved, of course. We have about 1 million gallons of water in our facility that are constantly in motion, and constantly being monitored by our computerized growing equipment. Of the water that we need for growing, 85 percent of it we capture off of our rooftops. We get a lot of rain and snow in northeast Ohio, so we are fortunate to be able to utilize that water. We also use a lot less water to grow our leafy greens. It takes about 1 gallon of water from seed to harvest to grow our lettuce, as compared to our field-grown equivalents which use up to 40 gallons of water per head of lettuce.

Operationally, our crops reach our customers within 24 hours of harvest. So we are providing fresher produce that then has a longer shelf life.

A couple of notes on food safety: In an indoor controlled environment, we are able to much more tightly control food safety. This comes at a cost, of course. Indoor growing also enables us to be pesticide-free. We use only ladybugs to combat the bad insects. And we use an industry-leading third party food safety auditor to make sure that we are truly walking the walk, and for 2 consecutive years we have had very high scores from our food safety auditors.

A couple of notes on our customers: We sell primarily to three sectors. We sell to retail grocery store chains, we sell to wholesale

distributors who deliver to area restaurants and institutions like the hospitals and the universities, and last, we sell to food processors who are using large volumes of our herbs in recipes for pesto and sauces and juices and the like.

So in closing, why are we here to talk about urban hydroponic farming? Our team now sees a clear path toward viability, long-term financial viability, and we assert that every major city in the U.S. should be at least looking at this model. Why? As previously mentioned, we have the ability to maintain high levels of food safety practices. Pesticide-free is huge. The ability to control insect damage without harsh chemical sprays. We have opportunities that we create through the adaptive reuse of land, and now potentially buildings. There is no reason why we couldn't construct a facility like this in an old abandoned warehouse, with the advancements in LED lighting technologies that enable us to do that.

In conclusion, after 3 years of operation, Evergreen and Green City Growers now see a path to consistent profitability in urban farming. As an industry, we need to focus on the expansion of this model throughout the country, and certainly the discussion around scale has already commenced in Cleveland. Our culture of social mission-based operation has always been one of collaboration, and this will be especially important as we stay the course to advance urban farming.

Thank you.

[The prepared statement of Mr. McMicken follows:]

PREPARED STATEMENT OF JOHN McMICKEN, CHIEF EXECUTIVE OFFICER, EVERGREEN COOPERATIVE CORPORATION, CLEVELAND, OH

Introduction

Green City Growers, an Evergreen Cooperative, appreciates this opportunity to speak to the Subcommittee today. As CEO of Evergreen and the Interim President of Green City Growers, I am honored by this invitation and welcome the opportunity to share experiences from our inner-city, hydroponic farm in Cleveland, Ohio.

In 2012, Green City Growers (GCG) constructed a 3.25 acre hydroponic, food production greenhouse in the heart of urban Cleveland, Ohio. The 11.5 acre plot of brownfield land in Cleveland's 'Central' neighborhood was the former site of 40 abandoned homes. Today, GCG operates what has become one of the largest food production facilities in a core urban area, while providing 36 full-time jobs and wealth-building opportunities for residents of Cleveland's Greater University Circle area. University Circle is home to the Cleveland Clinic, University Hospitals, Case Western Reserve University, and approximately forty cultural institutions.

Despite University Circle businesses purchasing more than \$3 billion in goods and services annually, the surrounding neighborhoods have 43,000 residents with a median household income under \$18,500. Green City Growers, as part of the network known as The Evergreen Cooperative Corporation (501(c)(3)), is a component of the comprehensive Greater University Circle Initiative dedicated to stabilizing these neighborhoods through the creation of for-profit, worker-owned companies. The companies provide living wage jobs, medical benefits, profit sharing, and home-buying programs for the worker-owners.

After a thorough analysis of markets, crops, input costs, and projected revenues, stakeholders determined that a commercial food production greenhouse located in urban Cleveland would be a profitable and viable business employing 40–50 full-time employees (at capacity). The \$16 million hydroponic greenhouse facility was designed to grow three million heads of multiple lettuce varieties, and 300,000 pounds of herbs per year. These products are marketed to Greater University Circle (GUC) anchor institutions, supermarkets, and produce wholesale companies within a 150 mile radius around Cleveland, Ohio.

Specifically, GCG relies on three distinct go-to-market strategies: a direct sales effort via its own sales team, major distributors (who staff their own sales teams), and brokers who represent multiple farms to aggregate major produce categories

which ship to large buyers (a ‘one-stop shop’ strategy). As of today, this marketing approach has resulted in a customer base consisting of: both small and large retail grocery chains (40%); wholesale distribution to area restaurants, hospitals, and schools (40%); and food processors who utilize herbs as an ingredient in large-batch recipes (20%). It is now evident that consumers, institutions, and businesses in the region have begun to support locally-grown food initiatives as part of the ongoing revitalization of our city.

Current Status

As is the case for many startup companies, the first 2 years of operation for Green City Growers were turbulent. After the excitement of the ribbon-cutting of this ground-breaking venture, sales and marketing efforts were met with predominantly *status quo* buying habits. Other than a few early on adopters of this progressive solution to year-round, high quality produce, most buyers in the region stayed the course with their traditional buying habits (via long-distance hauling). This challenge, combined with our overly optimistic sales projections, created daily working capital hurdles—again, not uncommon among startups of any kind.

Year-round hydroponic farming involves significant operational overhead, requiring production at nearly 100% capacity in order to achieve consistent profitability. This is especially true in the winter months in northeast Ohio. During 2015, GCG doubled its sales to get to 75% capacity. The market has finally begun to support strong growth, but much work lies ahead to get this inner-city farm to consistent profitability.

Challenges

The business challenges which GCG continues to face can be summarized in three broad categories:

1. *Displacement of traditional buying habits and long-standing buyer-supplier relationships*—an urban agriculture solution like ours is still new to many prospective commercial buyers. While much progress has been made in this area as of late, there are still a number of large regional players who have yet to ‘come around.’
2. *Market position and pricing*—consumer education relative to the high value of hydroponic growing is lacking, therefore many individual and institutional buyers are unwilling to pay more for this produce than similar field grown varieties. On the other end of the spectrum, hydroponic growers also compete with certified organic and other niche market producers, even though controlled environment hydroponic facilities provide advantages with respect to food safety controls and reduced water consumption.
3. *High energy costs*—despite award-winning facility design in the area of energy efficiency, there is no escaping the intense demand on electric power to run effective grow lights. GCG and others in the hydroponic industry will need to convert some or all electricity generation to one or more renewable sources. Incentives, tax credits and the like will be key to making this costly conversion.

Opportunities

Ongoing weather-related issues and inescapable drought problems in the western U.S. have begun to really drive commercial hydroponic growing. Added to this growing concern is the clear need for tighter food-safety controls, some of which can only be attained via the controlled indoor farming practices found in facilities like Green City Growers. Opportunities for this agricultural model include, but are not limited to the following market differentiators:

1. Consistent quality of product, year-round;
2. Reliable availability (no crop loss regardless of outside weather conditions);
3. Pesticide-free produce;
4. Highest level of food-safety standards;
5. Sustainable growing (GCG uses only 1 gallon of water per mature head of hydroponic lettuce, as compared to approximately 40 gallons used for a similar field grown variety—and at GCG, over 80% of all water used in its growing ponds is captured rain and snow);
6. Reduced transportation costs by growing primary crops closer to dense population areas; and
7. A worker-friendly environment (90% of the company is owned by its employees).

Outlook

After almost 3 years in operation, Cleveland-based Green City Growers has emerged from a difficult startup by establishing itself as a reputable farm known for its consistency and industry-leading food safety practices. Discussions have now turned to scale: how will GCG and the hydroponic industry as a whole expand this hyper-local food production effort in order to have an even more significant impact? Among the many lessons learned since GCG's launch in 2012, priorities for the pathway to scale include:

1. Better financing options;
2. Better (lower-cost) land acquisition;
3. Tighter, more well-defined food safety regulations (to level the playing field);
and
4. Affordable access to renewable energy such as wind and solar.

Conclusion

GCG is honored to be a part of this discussion and extends an open invitation to this Subcommittee to remain engaged with us along this important journey toward sustainable urban agriculture. Meanwhile, I would encourage the Subcommittee to give careful consideration to ways in which a future farm bill might address some of the issues confronting urban agriculture. I realize this is perhaps not a traditional area of agriculture for a farm bill to deal with, but it is in fact a burgeoning sector in numerous cities across the country that might benefit from a seat at the table. The commercial growing and marketing of fresh, nutritious food while creating living wage jobs and economic development in low income neighborhoods is a win-win-win that should be encouraged and well-supported as an emerging part of the U.S. food policy equation.

The CHAIRMAN. Thank you, Mr. McMicken.

Mr. Eilers, welcome, and feel free to offer your testimony.

STATEMENT OF JOSHUA W. EILERS, OWNER, RANGER CATTLE LLC, AUSTIN, TX

Mr. EILERS. Thank you. So I am Josh Eilers, and I am the founder of Ranger Cattle, and we specialize in the direct marketing of Wagyu Beef in Austin, Texas.

I am pretty passionate about this topic, specifically because it is the only real job I have ever had. I went from the military as an Army Ranger, then transitioned right to college. And when I started at the University of Texas, I invested in cattle, mostly by accident. I didn't know any better. And then the more I learned, the more business classes I took at UT, then I got the idea that it doesn't take a whole lot to realize if you cut out the middleman, if you direct market that product, all of a sudden that carcass is worth a whole lot more, and your margins increase drastically.

So Ranger Cattle started in a traditional approach. We were a cow/calf operation, and each year we would sell our calves off to a feedlot in Nebraska, and he would ship it off to a packer, and then those steaks would end up here in D.C. or in New York or Boston at some fancy steakhouse. Well, in Texas, we have a lot of pride; pride for our products, pride for our people, so I get the idea that, well, I am in college and I don't have real bills, what if we retained these carcasses, and we knew we were supplying a great product in the first place, so why not feed the great people of our Austin community, the great people of Texas.

And with that said, direct marketing beef is no easy task. If you were to rank the challenges I have had in my life from being an Army Ranger, four combat deployments, wounded in Afghanistan, I probably would be about right here, but direct marketing beef might put you at, honestly, a whole different level.

So first, I want to go over those challenges just to make sure we get those across, because my colleagues here, they hit the opportunity. The opportunity is there, it is just the challenges are pretty high and they are extensive.

The largest one of those has been with the farmers' markets. I know the USDA has policies that stimulate growth of farmers' markets and the opening of new ones, but we need to be opening new good ones. And what I mean by that are ones that do not exclude vendors. For example, I raise beef cattle in Austin, Texas, and I am within city limits, yet I can't sell my beef in city limits because the Austin farmers' markets are controlled by an organization, and that organization only wants one beef vendor there. Well, that beef vendor is from west Texas. He is shipping in. But it excludes me from that market altogether. Now, I know the American populous doesn't understand that, and I am not sure that the USDA does either. So we need good farmers' markets and not just farmers' markets.

And then additionally from the USDA, we do need more facilities that are inspected by them. I have to go over 100 miles to kill or to harvest one of our carcasses, because those chefs at the restaurants that we supply right there in Austin, they want to see that USDA stamp of approval.

The opportunities, like my colleagues mentioned, they are there. A couple of things we do to kind of set us apart is we are in that niche market with the Wagyu Beef, we can guarantee prime. And the people of Austin, they are fancy people and they like to eat fancy meat, and that is good for us. And additionally, we use the labels that we are pretty happy about, it is called Homegrown by Heroes, and what that is, it is a label that if your operation is run by veterans, then here is a label you can put on your product, because it is agreed upon that any red-blooded American, when they are presented with two products of equal value, would prefer to buy from a veteran and to further support his transition from the military.

In the State of Texas, we have Go Texan labels, and those are great, but they are expensive and you have to pay to put them on your product. But everyone knows about them. Not too many people know about the Homegrown by Heroes labels. So if we could spread that word, or you could spread that word with your colleagues, I sure would appreciate that one on a personal level.

Like Mr. McCloskey said that their ranch is open to visitors. We think that is important. Education: I probably spend most of my time educating people that are either at the farmers' markets or even the chefs that aren't really familiar with our product, just telling them about it. Instead of ranching being a 7 day job for me, now it is about a 3 or 4 day, and I am a salesman the rest of the days. But that is okay because our operation at Ranger Cattle, although it is small for the time being, it is a net positive, a greater good for our community, and the best and the most positive direction we could send our operation in would be for the direct marketing of beef to our community.

Thank you.

[The prepared statement of Mr. Eilers follows:]

PREPARED STATEMENT OF JOSHUA W. EILERS, OWNER, RANGER CATTLE LLC,
AUSTIN, TX

It is my pleasure to have been invited to speak in front of the Subcommittee on Biotechnology, Horticulture, and Research for the purposes of providing testimony as well as responding to your questions. I received this invitation only a few days ago, so I apologize in advance if my testimony is not as well developed as the testimony of my colleagues.

As a relatively new, small rancher in the State of Texas, my testimony will likely be very different from that of my colleagues who are from larger operations. Hopefully my testimony will prove to be useful to other young operations, as well as to this Subcommittee. I have divided my testimony into five primary categories: (1) Challenges with direct marketing; (2) Opportunities for direct marketing; (3) Current marketing tactics; (4) What's working and ideas for the future; and (5) By the numbers: direct sales to consumer *vs.* distributors.

1. Challenges With Direct Marketing

a. Exclusionary Practices by Local Farmers' Markets

i. There are several farmers' markets in Austin, mostly run through what's known as the Sustainable Food Center ("SFC"). This organization organizes multiple farmers' markets across the City of Austin on various days of the week, allowing farmers direct access to consumers on a daily basis throughout the city. This is an ideal setup for those of us in direct marketing; however, the SFC has already made a partnership with a single beef producer and they will not allow another beef vendor to compete because it will take away sales from an existing vendor. This exclusionary practice has been my single greatest challenge in direct marketing—I raise beef in Austin city limits and yet I am prohibited from selling in Austin farmers' markets because they have already allowed in a beef vendor from west Texas. This practice forces me out of Austin, increases my operation costs (fuel, time, health documentation for various counties, *etc.*), undermines capitalism (competition is good!) and takes choice out of the consumer's hands—Austin buyers would absolutely prefer to buy local but they aren't given the choice.

b. Competing with Larger, Successful Companies for Direct Access

i. As a new and relatively small operation, Ranger Cattle does not yet have the capacity or means to compete with other companies that participate in direct sales, such as Omaha Steaks. Ranger Cattle sells beef boxes, which is one container of about 25 lbs. of Wagyu beef. These sales are processed online and give me a great opportunity to reach those outside of the Austin area, but shipping is over \$100 to overnight. Passing this cost directly to the consumer prices us out but absorbing the price makes selling beef boxes an unsustainable practice. Omaha Steaks has the ability to partner with UPS because of their size, and this provides consumer access to their product at a much more reasonable rate.

c. Lack of USDA Inspected Processing Facilities in Texas

i. There are very few USDA inspected processing facilities in Texas. Most are in the Panhandle, where the largest ranches also exist. In order for me to harvest my animals for direct sales, I have to use a USDA inspected processing facility and the nearest option is over 100 miles away. This particular facility also has no scheduling methods so wait times can be between 1 day and 3 months. Having limited to no control on when I will receive my product back from the processor raises obvious challenges for direct sales.

d. Obtaining Access to Decision-Makers at Farm-to-Table Restaurants

i. Meeting chefs and owners at farm-to-table restaurants has been a challenge. They are extremely busy and are frequently approached for various products. Farm-to-table restaurants are by far the most likely to show interest in my product but I am still discovering what methods of contact are most efficient.

2. Opportunities for Direct Marketing

a. USDA Programs

i. If the USDA does have opportunities for producers sourcing direct, I have never heard of them and I would question whether they are getting to the people that need them.

b. Opportunities in Austin

i. We are in a great location as folks in Austin are very excited to see where their food comes from. This has given us a real boost because we regularly have visitors at the ranch who are interested in our ranching process. However, restaurants in

Austin still have their bottom lines and buying local is not always a primary concern.

c. Veterans' Programs

i. I am extremely involved in the VA and veterans' affairs in general, and while there are programs to assist veterans in farming and ranching in general, there are not any that I know of that relate to direct marketing.

3. Marketing

a. Food Labeling

i. **Homegrown by Heroes:** This is a great organization that has helped many farmers and ranchers, but needs more governmental support because consumers do not seem to know what it is. I have never met anybody outside the veteran community that is familiar with the label. I think that the majority of Americans would absolutely prefer to purchase products from veterans when presented with two products of equal quality and price, so this label absolutely needs more attention and support.

ii. **Go Texan:** The Go Texan label is fantastic and well known within Texas. Unfortunately, it costs \$100 each year and for those of us with tight operational budgets, that is a significant expenditure. I don't see this label as absolutely necessary given that we sell at farmers' markets in central Texas—it's a given that we operate in Texas. In stores, this label has a very real impact on consumers but we are not yet in stores.

iii. **Website, social media, flyers:** These tools are how we market directly to the consumer. Being in Austin means we have gotten a great deal of local coverage (ranches within city limits are quite rare) and we are constantly updating our website and social media. There is definitely more to be done in this area, but there are only so many hours in a day!

4. What's Working and Ideas for the Future

a. Consumer Interest in Food at an All Time High

i. The Austin market is saturated with folks who care about what they eat and where it comes from. It is no secret that there is mistrust between producers and consumers at this time, created by issues such as the ethical treatment of animals, antibiotics, and truthful labeling of products. We believe transparent operations are the only way to rebuild this trust and we constantly invite people from the community out to the ranch to witness our operation. We have had visits from local high school students, restaurant owners, chefs, journalists, and other ranchers. We agree that it is important to know where your food comes from and how it's made—it is only one part of establishing overall health.

b. Taking Pride in Our Product

i. Our greatest marketing tool has been taking pride in our product and sharing that pride with consumers. Awareness regarding our animals, raising them ethically, taking the time to answer questions, and incorporating suggestions for better operations sets us apart from competition. Our ethical treatment of our animals has led consumers to support us where they wouldn't otherwise.

c. Isolated Market

i. As direct sellers, we are outside of the major beef market, which means we are not as susceptible to its fluctuations.

d. Grants for Direct Marketing

i. Grants in general are extremely beneficial, and if the USDA would provide more opportunities for grants in direct marketing I am sure we would see positive results.

5. By the Numbers: Direct Sales to Consumer vs. Selling at Weaning

a. At today's market price, we could sell a weaned calf for approximately \$825 (\$1.65/lb @ 500 lbs). Instead of selling, we can feed the same calf for around \$2 a day for a year. This comes out to an additional \$730 to finish the animal. There is an additional \$1,000 invested into processing, marketing, and some help selling. You can sell that same animal "by the steak" for \$10/lb at around 650 lbs. The math on paper appears clear—selling by the steak directly to the consumer is much more profitable. Even calculating with the time value of money involved in retaining an animal for future harvest vs. selling at weaning. The biggest drawback to selling "by the steak" is the time involved with educating the consumer and attempting to find places to sell. This takes me away from the ranch and puts me in a position of salesman. The profit of this approach may not be sustainable if it takes me away from the ranch because that will affect my product.

These are a few issues that would benefit other people in my position as well as this Subcommittee. I have only had a few days to prepare these statements, but if requested I can provide additional or more detailed information.

Most sincerely,



JOSHUA W. EILERS.

The CHAIRMAN. Thank you, Mr. Eilers. Thank you for your service, and also for your entertaining testimony. I appreciate all of the witnesses being here today.

We are now going to move into the question-and-answer part of our hearing. And since I am going to be here the entire hearing, I always defer my questions until later in the hearing so others may be able to get to another event they may have to go to. So I am going to recognize my colleague from Florida, Mr. Yoho, for his round of questions.

Mr. YOHO. Thank you, Mr. Chairman. I appreciate it. And I appreciate all the testimony. You guys had some great testimony.

I didn't realize you were a veterinarian there, Doc. I have done a lot of the same things you have. We have worked on a lot of dairy cattle. Yes, I got that too. Pulled a lot of calves C-sections, and displaced *abomasums*, and all that good stuff. And I know the plight you are going through, and I loved your testimony. In fact, you don't need to farm, we need you up here. We need you running in Congress to help us fix some of this stuff. And all you guys, everybody, ma'am, you too, everybody had a great testimony.

Dr. McCloskey, you were talking about what you do with the digester and the nitrogen, re-salvaging it, I guess. Did you do that because of a government regulation, or was that a need that you saw that you needed to fulfill to solve a problem?

Dr. McCLOSKEY. We do it because we truly like to try to get ahead of regulation.

Mr. YOHO. Right.

Dr. McCLOSKEY. I think as an industry, as all farmers, we should have that approach where we look for ways to solve regulatory problems by getting ahead of them, creating a market value to what we are doing. So within what we are doing with the recovering of the nitrogen phosphorus, ammonia as well—

Mr. YOHO. Right.

Dr. McCLOSKEY.—creating ammonium sulfate, our concept, and this is, I feel, really innovative and interesting, and we will be pushing this agenda hard, but our concept is that everyone in the watershed should participate in solving this problem. We have a very serious problem with eutrophication in this country and around the world, which are our dead zones, and agriculture is a part of that. I mean we can't deny that, but so are golf courses, septic tanks, and small industry, and many others. Our belief is that within a watershed, we need to get out of point sources *versus* non-point sources and allowing everyone to participate in a market-driven value, which will allow us all to become innovative with technology, like we have at Fair Oaks Farms. There should be a recognition of that, a monetary recognition, because now it takes a farm, with the technology we have, \$5 a pound to extract nitro-

gen. If you go to a waste treatment municipality plant today and try to extract 1 pound of nitrogen, it will take you \$50. It is always better to work at the source.

The system is not incentivized to be able to get golf course people to think different, lawn people, design new septic tanks that don't have the leakage that they do. Why? Just like we do with windows and we do with refrigerators, where there is an incentive to be able to invest in that, there should be an incentivized system within a watershed to create a business case that creates innovation, allows all of us then to participate, and finds solutions.

That is how innovation gets—

Mr. YOHO. I am going to cut you off there. And those are great suggestions that we will look at. We have a digester down in my area that is phenomenal. I think they produce over a megawatt, and they run their whole dairy off, and they sell back.

Mr. Tonnemaker, you brought up something, which I was glad to hear you say that. We need to get back to the basics about food safety, whose responsibility is it. We, as government, have certain regulations that people should meet, but over-regulations, as you said, like with the Food Modernization Act or the Food Safety Act, that burdensome mandate that came out, I have farmers in my area that grow tobacco, corn, cotton, watermelons, blueberries, and they say that costs them \$40,000 extra a year just in regulations, but it really didn't add to the food safety. What you are saying is we need to go back to education and tell people. I find it hard to believe that we have advanced this far, but people don't know to wash their vegetables, or, a chicken egg, it comes out of the cloaca of a chicken, you have to wash it. There are certain basic things that we need to teach. That goes back to kindergarten, stop, look, and listen before you cross the road. And we need to go back and educate the public.

And, Mr. Heck, it sounds like you are doing that. You said that young man was grazing on the vegetables. I have done that. You might pick up a nematode here and there but we can deworm you for that. That is just part of living.

But, Mr. Tonnemaker, going back to you, what regulations do you see that are probably the most burdensome that you run across, that you would like to see us just stop or maybe check before we put them out with the industry like you?

Mr. TONNEMAKER. Well, the industry has kind of gotten away in allowing paperwork to take everyone's blame away. And the orchard is a natural environment, and in the past, people allowed birds and other predators to take care of some of the insect population like kestrels and owls would take care of a lot of the voles and the mice running around the orchard. And right now, they don't want anything living in your orchard or in your boundaries, or the windbreaks or anything around it. So, they want it to be a bird-free zone. And, we talk about not being able to take care of our hospitals, which is a very confined area, and keeping disease and things out of the hospital. How can you keep that out of an orchard? Like you said, you need to be able to wash stuff down the chain.

[The information referred to is located on p. 61.]

Mr. YOHO. I am out of time and I have to cut back, but you are right. I mean when the inspectors come out, have you seen any birds fly over your watermelon pasture? No, you haven't seen any.

I am going to yield back. Thank you.

Mr. TONNEMAKER. Thank you.

The CHAIRMAN. The gentleman's time has expired. And thank you for the educational opportunity here, Mr. Yoho. I appreciate that.

Mr. YOHO. You bet you.

The CHAIRMAN. Nematodes, right?

Mr. YOHO. Nematodes.

The CHAIRMAN. Nematodes.

I recognize the Ranking Member, Ms. DelBene, for her questions. Please make them good.

Ms. DELBENE. Thank you. Thank you, Mr. Chairman. And thanks again to all of you for being here today.

I was interested to read in Mr. Tonnemaker's testimony the statement that direct marketing drives every planting decision on the farm. I know that you started at farmers' markets, and as a result, started meeting chefs, got into restaurant sales, and CSA, expanded the number of farmers' markets significantly, and then rebalanced your sales strategy and cut back on the number of farmers' markets, and then got into value-added products. And so I want to, starting with you, Mr. Tonnemaker, discuss how your marketing strategies changed from the early 1980s when you were first starting in this area, and through your transition to organic to where you are today. How has your marketing process evolved.

Mr. TONNEMAKER. Well, like we said in the testimony, the indirect wholesale system kind of failed us, and the fact that there was no real incentive for the wholesale distribution to provide good returns to the farmer. The farmer, as is right now, retains ownership of the fruit all the way to the grocery store when the person buys it; yet, the wholesalers get all of the money out first. So essentially, we send the fruit to the warehouse, and then they take all the money, the selling and the distribution, all those guys get their money out. Whatever is left over, the farmer gets.

So we changed to go direct market to the restaurants so that we could keep part of the carcass back on the farm.

We started the farmers' markets and we were able to meet the chefs and started developing our outreach, and realized that these guys wanted specific things they couldn't get on a regular basis, and then we expanded. Right now, we grow about 300 varieties of peppers, we have 16 varieties of sweet cherries, we are adding a few more so we can extend our growing season, and that way we harvest cherries for about a month and a half. We grow about 48 kinds of peaches, so we start picking in early July, and pick all the way into late September, just to make it so we can direct market a longer period of time and keep our farm going.

Ms. DELBENE. Yes.

Mr. TONNEMAKER. We transitioned to organic starting in 1997. We were fully organic in 2003 at our farm in eastern Washington. And we are hoping to certify organic in our farm in Woodinville this spring, with the idea that it was a good niche for us. My grandmother lived to be 100 years old, and we were a conventional

farm, and she died in 2003, so like they said, we don't want to combat either time's farming methods, there is definitely pros and cons for each, but with us and our direct marketing, a lot of the chefs were looking for it and asking for it, and it has just worked out well in our situation with direct contact with the consumer to be able to certify organic. And that has helped us in our wholesale sales with selling to Tree Top, which is a major juice producer in Washington, they are a co-op, and routinely we get returns with juice quality or peeler apples, which essentially get cut up for apple pie fillings and have a higher return than we would for fresh market fruits. So being organic has really helped us in that aspect, in addition to the consumers.

Ms. DELBENE. Yes.

Mr. TONNEMAKER. As far as the farmers' markets, at one point we were doing 18 a week. Last summer we did eight. And this summer we will probably be down at six or seven. Just the success of the farmers' markets we go to, and being able to specialize and really emphasize on those, has helped a lot. We do a lot of weekly share boxes. Actually, a pretty small amount considering some of our local competitors, people that do hundreds, we do about 150. But we do a lot of restaurant sales, and we have the farm in Woodinville which we have a lot of direct sales going there to the people. And we are able to do some agritourism and some educational plantings coming up here. What we are striving for is to connect the community locally with their agricultural source.

Ms. DELBENE. Have others had similar experiences in terms of how things have evolved and they have transitioned from where they started in terms of direct marketing to where you are today?

Mr. TONNEMAKER. Go ahead.

Ms. COFFIN. Well, we started again in terms of we have a very pastured poultry business, and we have only been in business for 3 full years, so we are very short. But for us, the opportunity has been largely in restaurants and farm stores and institutions, and that is to us—again, we are in a part of the country where there is a huge number of farmers' markets. I would echo some of the challenges that Mr. Eilers has mentioned in terms of farmers' markets, and it has presented challenges and opportunities, but for us, we have seen the real growth in farm stores and in institutions.

Ms. DELBENE. Thank you. My time has expired. I yield back, Mr. Chairman.

The CHAIRMAN. Thank you, Ms. DelBene.

I now recognize the gentleman, also from the State of Washington, for his round of questions, Mr. Newhouse.

Mr. NEWHOUSE. Thank you, Mr. Chairman, and thanks for the compliments on our Washington cherries. You just want to make sure I bring you some again this year, don't you?

The CHAIRMAN. I was a little disappointed we didn't see any taste-testing opportunities from the witnesses, but, obviously, we will work on that for the next time. Right, John? Thanks. I will not charge you that time.

Mr. NEWHOUSE. I appreciate that. Thank you.

I want to thank everybody for their testimony this morning. You guys are saying some things that I have been trying to say for a long time. Somebody mentioned that we are about two percent of

the population, the farm community, anymore in this country. And we have a huge job to do to communicate to the general public the importance of agriculture and the challenges that we face, and some of the things that are making it difficult for our industry to continue to thrive. So I appreciate you guys and your stories.

The direct marketing, whether it be farmers' markets or other ways, as scary as this might be for some of us, you guys are truly the face of American agriculture to the U.S. public. And so your ability to interact with the public, to really connect with consumers is one of the most important things that, as a result of the direct marketing, aside from the economic successes that you have been certainly expressing today. So whether large or small, it is important. What did you say, there are 500,000 people visiting your farm every year. Is that what you said? That is an amazing thing. And I would guess that your connections at farmers' markets are large as well, even on a regular basis.

And I want to personally welcome Mr. Tonnemaker to Washington, D.C. The farm happens to be in my district, so I am proud of our local farmers, absolutely.

One of the things we are looking for ways—part of the reason for this hearing is to explore ways that the government can help. A novel concept, to actually help you do what you are doing. Several of you have mentioned some challenges, transitioning to the next generation and how do we get land in the hands of beginning farmers, or some of the regulations that you are facing. Could you expand on—from your perspective, Mr. Tonnemaker, a little bit about—you mentioned those binders in front of you. Certainly, food safety is at the top of a lot of peoples' idea of priority, but how do we help you get through that and also continue to provide a safe product to consumers?

Mr. TONNEMAKER. Well, I think that the binders are a huge problem because there are a lot of small farms out there that are trying to work with regulations that are more designed towards maybe the next step down the line in the processing, and that is where you see a lot of the problems is in the larger institutions. The farmer is held responsible for the product when it leaves the farm, yet they have no control over what goes on down the distribution chain. So when you direct market, it kind of circumvents a lot of that.

And as Mr. Eilers mentioned, the opportunity to have good farmers' markets and support that, I know that when you were on the state legislature and you were in charge of the Agriculture Committee in Washington, you were pretty helpful, a good ear to the farmers' market, and we appreciate that and thank you for that support. And I just think that it would behoove, with the education, and can see the face, and they can greet people and talk to them, I think that is real important in the future is for people to understand that the growing practices and why people do what they do, and necessarily not being certified organic doesn't mean they are perfect or bad. There are reasons why people farm differently and they are important, and the distance that food travels is super important to how they eat and when they eat. We had a recent farmers' market just on Sunday and the lady asked, we told her we were running out of apples, and she said, well, why are you

running out of apples, it is only January? Yes, it is only January. We picked the apples in October. We are trying to provide you a fresh product. And so it kind of defeats the purpose if we are providing a store-bought apple, I mean a refrigerated, stored apple for a period of time.

Mr. NEWHOUSE. Yes.

Mr. TONNEMAKER. So those are definitely obstacles, and education is the biggest factor we face in consumers understanding that milk doesn't come out of a carton, and apples don't come out of a shelf.

Mr. NEWHOUSE. Thank you.

Ms. COFFIN, you brought up some ideas of challenges. And how do we focus on getting new farmers into the business. How do we make that transition? I can't remember, you said something about the amount of farmers that are retiring in the next few years and the land that will become available, either for development or farming.

Ms. COFFIN. Right.

Mr. NEWHOUSE. Do you have any ideas how we can accomplish that?

Ms. COFFIN. Well, that is a good question, and thanks for asking. We did this research project, unfortunately, it was limited to New England so it was just our experience there, but we found that a huge number: first, that our region has 30 percent of our farmers are over 65 years old, and that a large number of those farmers do not appear to have successors. And thinking about how that land will transition, that, to us, means the importance of those programs and strategies like the Beginning Farmers and Ranchers Development Program, which is funding some land access projects. For like us, it is funding land for good to do succession planning with older farmers—

Mr. NEWHOUSE. Okay.

Ms. COFFIN.—to help them find and identify who that next generation is, particularly as we are moving towards a situation where there are less kids coming up through farms, so that you have a lot more new farmers who are coming in from off the farm.

Mr. NEWHOUSE. Okay.

Ms. COFFIN. So continuing to fund programs like that, and particularly, in urban areas where there is a lot of development pressure, having the ability to purchase conservation easements through the Agriculture Conservation Easement Program has been really important.

I think the next farm bill is going to be an opportunity to think more creatively on the beginning farmers and land access, and there is, through the National Sustainable Agriculture Coalition, a focus on developing some new ideas that might actually be tax incentives that could be important to help with that kind of transition.

Mr. NEWHOUSE. Okay, thank you very much. I appreciate that, and all of your testimony. Thanks for focusing on this very important issue.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. Newhouse.

I now recognize Mr. McGovern, for 5 minutes.

Mr. MCGOVERN. Thank you. And thank you all for being here. And it is great to see a familiar face in Ms. Coffin. I appreciate anybody who comes here and highlights the importance of agriculture in New England, because there are some incredible things going on. And I appreciate the comments on some of the concerns about the burdens of some regulations and the issues of food safety, some are needed. Food safety is a big issue, and my experience has been is that small and medium-sized farms get it. They always have gotten it because when it comes to food safety if you directly sell products that are not safe and someone becomes sick, you are out of business. It is the bigger, in my opinion, industrial-type farms that are the problem. I do farm tours every year. Last summer I did 13 farms in 2 days, and I continue to be impressed at the innovation and the incredible things that are happening. There is an agricultural renaissance occurring, which is really exciting. Consumers want more locally grown food, and they want fresh produce and the unique products that are made right on the farms. I have been to farm stands and CSAs and talked directly with farmers. I have been impressed, as Ms. Coffin pointed out, with the colleges and universities, like UMass Amherst, as well as a lot of K through 12 schools, committed to buying local. It is an important part of our economy. And talk about variety and value-added products. I have had everything from corn ice cream to pickles to mocha milk. I have one farm in my district that is making maple vodka, which I will bring to the Committee next week for everybody. I have really been impressed with efforts to expand access to fresh, healthy produce amongst low-income populations receiving SNAP and other Federal food assistance programs like SNAP, EBT, the WIC Farmers' Market Nutrition Program, and the Seniors Farmers' Market Nutrition Program. In fact, we ought to have a Veterans Farmer Market Nutrition Program to better connect veterans and healthy foods at VA clinics.

Do any of you participate in any of these programs, and what has your experience been like, and what improvements or enhancements would you suggest?

Mr. TONNEMAKER. Well, we participate in the SNAP and the WIC and the Senior FMN Programs at the farmers' market, and we actually are approved to accept WIC checks at our farm stand in Royal City. And we have really enjoyed the program. It brings a lot of people, new customers, out to the farm and out to the farmers' markets because the health clinics spend a lot of time educating people on where they can get it, and the money stays in the community, which is the important—

Mr. MCGOVERN. Right.

Mr. TONNEMAKER.—thing, for thinking about the farm and the health of the farm, and the longevity of the community.

The SNAP, we did a program in 2013 where they had a South King County Access Program, and we were one of the members. In fact, I was on the advisory board that had to deal with farmer comments and suggestions, and there is a big technological gap between farmers, especially in really rural settings where there may or may not be Internet connection, cell phone connection, and to develop these technologies to make it easier, because EBT is transitioning to electronic and they have no EBT, excuse me, the

SNAP is—and the WIC are going to be the same, without the EBT card. So there are new technologies out there, but it is just getting it to the farmers. So thank you, and I am sure Mr. Heck can speak to this.

Mr. MCGOVERN. Sure.

Mr. HECK. I think that one thing that has been a problem with people redeeming those benefits is the ability to get to a place, just the transportation. Many times a market is located in a place where it is not a lower income neighborhood because the financial opportunities aren't there. So I think that one of those problems is people just simply cannot get to a place that they can buy fresh produce or fresh meats or anything. It is just hard for them to get there. Transportation or some sort of public transportation initiative that would get people to those places, or a mobile—

Mr. MCGOVERN. Right, mobile I was going to say—

Mr. HECK.—would be great, yes.

Mr. MCGOVERN.—yes. Right.

Mr. HECK. We actually have that opportunity now. We have the ability to move produce in the neighborhoods that are a little more impoverished or can't make it to those places, so we are excited about that.

Mr. MCGOVERN. That is very good. I appreciate everybody's comments here today, and again, I am in awe of the work that you all do. I would last about half a day on a farm if I had to do that for a living.

I just have one other note. I speak to high schools, and usually at the end I always ask people what do you want to do? How many want to be in Congress? Nobody. Right? But the number of people in a lot of schools I visit who raise their hand and they say they want to go into farming is really increasing. So when I talk about this renaissance, it is not just people want to buy local produce and meats that are raised locally. There seems to be a growing appreciation about what farms are about, and more and more people seem to want to commit their lives to that. I think that that hopefully is an encouraging signal here. So thank you.

The CHAIRMAN. Thank you, Mr. McGovern. I appreciate the offer for maple vodka too. Coming from corn country, I can tell you I have never had anybody say, boy, we ought to make some ice cream out of corn. So I would like to try that one too.

Mr. MCGOVERN. Come to Massachusetts.

The CHAIRMAN. My passport doesn't work for Massachusetts.

Dr. McCloskey, thank you again for being here. I am going to take my time to ask a couple of questions. I, again, appreciate your products. My family is a big fan. I know that you and I had a chance to talk about some of your other products that we see all throughout my area, not only in our grocery stores but our convenience stores. But my colleague, I wish he would have stayed, just mentioned something about larger facilities, larger farms. Can you let us know, how big is your facility in Indiana?

Dr. MCCLOSKEY. So the Fair Oaks Farm is composed of 36,000 cows, 12 different farm operations within a 4 mile radius.

The CHAIRMAN. So a very small operation.

Dr. MCCLOSKEY. Yes. It is considered a large farm, but it is all family farms. So, we as owners, my wife works there, I work there,

my kids work there, our other partners' families work there, but also many families work there and those generations stay with us. The workers that have been with us for over 20 years, their children have grown up and have come back to the farm. And to the Member's point on education, the advancements on farm today are so tremendous, and there is so much demand for great knowledge coming back into the farm because the technology is improving at a level that is very attractive to young, up-and-coming professionals to come back to the farm, from a nutritional stand point of view, from biology, from chemistry, mechanical side of the business, because it continues to evolve technologically. So people tend to want to cubby us into corporate farming but we are not corporate farming. In the United States, I don't know, maybe one or two percent of the farming could be really considered corporate farming. We are just large farmers. We were successful at what we did, I started with 200 cows, and sometimes you feel that you are punished for being successful, and reinvesting in a business and growing it and making it more efficient. And I like to think of a concept that I would share with all of you, that is scale for good. When I shared about our digesters and the technology that we have been able to invest in, that is R&D money coming out of our dairy that unfortunately a small operation can't do, but as we developed that technology, two things happen with new technology. One is it becomes more efficient as we use it, and the other one is you drive cost out of it. Those two things combined make the technology more affordable for smaller and smaller farms. So you have to scale it up, because it will help the innovation system to raise all boats in the farming community.

I keep on insisting that it is all of us together. There is no way we can get here. As a matter of fact, we have organic dairy farms besides the others. So I believe in organic farming, I believe in small, I believe in large, I believe that all of us together will create what I consider the true sustainable farming because it will be the confluence of the things that you are learning on your farm that I go by and talk to you. Why don't I do that on conventional farming because I could save money and it would be more appealing. It is that confluence of that knowledge that has always made America great, and will continue to allow us to be the leader in agriculture in the world. People come from all over the world to see who we are, and we have to have the mentality that we are all in this together, and we are focused on a movement forward together to create true sustainable farming. That definition has not been clear yet to the consumer or to even us as farmers because one important thought process is, I as a farmer, and I hope everyone on this table, will listen to the consumer because we want to deliver to the consumer what they want. But the consumer also needs to understand that that may come at a cost. If they want something such as GMO-free products, to take GMO away from farming is taking a tremendous advantage that truly is sustainable to farming, that increases productivity, decreases water use, decreases chemical use, decreases pesticides and herbicides. It increases all those things and decreases productivity by taking that tool away, a very safe, scientific proven tool that we have had over 3,000,000,000 encounters in the last 25 years with GMOs without

one single reported illness. We as a government, farmers, we have to be together with the message that is true and science-based, and allow the consumer to decide. It is a choice, and we need the variety, but it can't be a confused choice. It has to be a choice that is dealing with the sincerity and the reality and the true science, so that the consumer knows if I want this, it costs more, but not only does it cost more, it has an environmental cost.

So it is funny, what I find in my experience is, I find people that have a dichotomy going in their heads. Right? They believe that they are doing the right thing for the environment and that they are sustainable, and then they want GMO-free or they want something that takes away a very safe tool, that has a cost to the environment. They don't understand that, they just have been told through however they are getting their information that this is better. But better in what sense? So we have to have an informed consumer together. We can't be fighting against each other and creating things that aren't true out there—

The CHAIRMAN. And thank you.

Dr. McCLOSKEY.—to make each other less of what we are trying to accomplish.

The CHAIRMAN. I appreciate those comments. I am out of time. And I had just one quick question. Will you raise your hand if you want your operations to be expanded or grow within the next 5 years?

Dr. McCLOSKEY. Thank you.

The CHAIRMAN. You want to get bigger. You want to get bigger. So thank you very much.

I now yield to the gentlelady from Florida, Ms. Graham, for her questions.

Ms. GRAHAM. Thank you, Mr. Chairman.

I will say this has been one of the more entertaining and enjoyable hearings that I have participated in, so I want to thank all of the witnesses.

This is very timely because I just completed my first official north Florida farm tour. I have 14 counties in my district. It is the largest geographical district in Florida and the most rural, and has whole lot of agriculture. So this is a wonderful opportunity to follow up on that.

Mr. Eilers, I specifically would like to ask you a question. We have a lot of veterans in our district, a lot, who are coming back from active duty and looking for ways to continue to contribute, and there is a lot of interest in farming. I was actually looking at your webpage, and I have liked your Facebook page already, and I was curious, in addition to the Homegrown by Heroes, what other marketing options and opportunities are there for veterans that I could let the veterans back in my district know about?

Mr. EILERS. To tell you the truth, I don't know of them myself. The Homegrown by Heroes, the reason it is so exciting and so big is because it is the first one that really gives us an opportunity to set ourselves apart. So to answer your question, I don't know of other ones you could share with them. I would definitely encourage the transition into agriculture. I think it is a beautiful thing, especially if you are like I was, going straight from combat back to try-

ing to make that successful transition, I don't think there is any better way to do it than through agriculture.

Ms. GRAHAM. Do any of the other witnesses know of specific direct marketing opportunities for veterans? Well, we need to work on that. In my district we have found that there is really an interest, and I have Florida A&M University and we are working on a program that will help train veterans in farming. There is a lot involved, and as you all pointed out, the age of the average farmer is in the sixties and there is not, unfortunately, the family continuation of the businesses that we have seen. So whatever we can do to encourage the next generation of farmers.

Well, thank you. And thank you for your service. It is quite impressive what you have done in your life, so thank you for all you are doing.

So I will turn to Mr. Tonnemaker, I want to make sure I pronounce your last name correctly, Tonnemaker. The point of my north Florida farm tour was to meet with the farmers across the district, and learn the challenges and opportunities that they were facing, particularly in the vulnerable populations. Seniors and veterans are included in that, as well as children and low-income populations. Can you provide any guidance on what would be some additional marketing opportunities for the more vulnerable populations that might like to go into farming, or are in farming already?

Mr. TONNEMAKER. Well, thank you. I think one of the really important things that we have kind of touched on today is the difficulty of a person entering the market now, with the cost of the land and the cost of the equipment. A lot of people can run their business and can farm. There is the need for education, with regulation and making sure that you comply with all the regulations. But one of the main ills is getting help for people to understand that there are programs out there maybe that can help them, meet retiring farmers and find land, and also to find ways, so they can develop their product and—like driving 100 miles to get you beef slaughtered is a long way, and maybe help with education on how to run the facilities to reuse your byproducts that are left over from the dairy business. I think that kind of education, because it is intimidating, the laws out there, as far as where you can farm and how you can farm, and education is very, very important. And I wish I could be more specific, but I just think that focusing on education—

[The information referred to is located on p. 61.]

Ms. GRAHAM. Education is key. Do any of you all have StrikeForce in your areas, the USDA program, StrikeForce? No? Not familiar with that? Okay. It was something I was surprised—Mr. Chairman, can I have—are you the acting Chairman now, Mr. Yoho? My fellow Floridian colleague.

Mr. YOHO. [presiding.] Yes, ma'am, and I have no aversion—Ms. GRAHAM. StrikeForce is something that I was surprised was not in Florida. I think some of the counties are in your district. So I am going to work with USDA to help the counties in north Florida utilize the StrikeForce Program. It might be something you want to look into. It might provide some options as well in your areas of the world.

Well, thank you. I have no more time, so I yield back the time I do not have. Thank you very much.

Mr. YOHO. We thank you for yielding back that non-time.

And the chair will now recognize our colleague from the State of New Hampshire, Ms. Kuster.

Ms. KUSTER. Thank you very much, Mr. Chairman. And I did get a chance to thank Mr. Davis for holding this hearing.

Welcome to all of you, and in particular, to Cris Coffin. Thank you for your work that you are doing in New Hampshire. I am very excited about growing agriculture. We are one of the very few states with the rising five percent increase year over year now with new farmers, young farmers, value-added, farm to table, farmers' markets. I could go on and on. I am excited to announce that we are number 2 in the United States for the percentage of farms where direct sales are at 31 percent. I was wondering if it was a neighboring state that was number 1. It turns out it was Hawaii. But we are hot on their heels. And I have done a number of events, in addition to visiting farms and I have a couple of shout-outs. One, the USDA Rural Development Program that you are probably all familiar with has been super helpful. We just did a renewable energy with installation of solar panels at a farm that does a lot of direct marketing. And you are absolutely right in terms of access to land. That is actually how I first got into this before I came into Congress was helping to save a local farm, Diamond Hill Farm, and doing the land conservation. It was a classic case, third generation, the brother wanted to sell it off to build McMansions, and the sister wanted to keep it. And we brought together everybody, Federal, Farmer and Rancher Program, state funding, local, the town, and at the end I helped to raise the money from just the community. And it has been a brilliant success. The best corn in the State of New Hampshire, everybody stops there to get fresh fruits and vegetables, and I am just a huge fan.

My question, and this is directed, Cris, to you. From what you have been seeing on the ground working with New England farmers, what are some specific examples of how farmers are better utilizing direct sales to reach new customers and boost farm income? And then how can farmers outside of New England use some of these successful techniques to grow their direct sales?

Ms. COFFIN. Right. Well, thank you for the question. Around New England, it is just impressive at the diversity, as Congressman McGovern mentioned, in terms of opportunities. And in New Hampshire, one of the wonderful things is the state has done a public-private partnership with restaurants to have a certified local restaurant certification program, so the customers know that they can go to certain restaurants and know that there is going to be local food on the menu. So that helps in some ways.

I would say on the institutional markets that what has been impressive in New England, and this would hold true for around the country, is that schools and universities and healthcare centers that have made an effort at buying local, and have worked to do consumer education about that local, that the results has been that more kids in public schools buy school lunches because there is this sort of combination of education and working with school food service directors to do more scratch cooking. It makes, in many cases,

food is better. That is not to say, Mr. McCloskey, that food from far away is not fine, but there has been a sort of interest in moving away from prepared school food, and that helps generate excitement, and kids eating the food all helps to increase. And so schools that are doing well with their school lunch programs and breakfast programs, it is because there is a new excitement, and that helps to make it more cost-effective for schools. And the same thing with universities. UMass has had a significant increase in the number of students who have gone on the school meal plan, they are now number 1 in the country, because they have made a big effort to promote local and sustainable, and it has gotten students excited.

So I would say that in terms of those opportunities, those are everywhere.

Ms. KUSTER. Yes. And I see that connection myself. The food tastes better and people are excited about it, and making that connection to help this generation, particularly in terms of their level of activity and concern around health.

And then I—my time is up, but I just want to add, the State of New Hampshire has done a lot of marketing, and Washington State probably in this regard as well. We have a nice tourism brochure now about farmers' markets and direct marketing. I think in a state like ours where tourism is the number 2 sector of the economy, to be able to encourage people—and it spills over to the vodka and the homebrew—the brewed beer, we doubled overnight in terms of the availability, and real interest and excitement around that, and as you say, the money stays local.

So thank you all. I appreciate your help. And thank you again for hosting this.

The CHAIRMAN [presiding.] Thank you, Annie. It always goes back for the Northeasterners to the vodka and the homebrewed beer.

Ms. KUSTER. And the maple syrup.

The CHAIRMAN. And the maple syrup, yes.

Ms. KUSTER. It is all about the maple syrup.

The CHAIRMAN. I want to jump in here. Mr. Heck, thank you again for coming out from central Illinois. Following up on some of the questions Ms. Kuster asked and Ms. Coffin's comments on school nutrition, I know that you being a past teacher, you working with many school districts in my district, both larger, more urban school districts and now trying to reach out to the rural areas, we have a different issue that we face in Illinois than those in smaller geographical states face in a lot of the northeastern part of our country. We were talking earlier today about how do we impact more of my rural school districts? You taught in a rural school district that is really only about 20 minutes from a larger urban area.

Mr. HECK. Yes.

The CHAIRMAN. I represent areas in southwestern Illinois that are connected to the rest of the state by one bridge or two ferries, and their rural school district is the area of Illinois where we can actually grow more specialty crops, but there is that lack of ability to get those crops into the school system to begin to educate the children and the parents on what you are doing in some of the larger districts. So what is your suggestion on how we attack that problem within our school nutrition programs? Because those su-

perintendents are the ones that come to me and tell me they have a problem meeting the standards, they have a problem losing students. We are not gaining students into the school nutrition program in Illinois, we are losing them. We are having schools drop out. Tell me what your thoughts are on how to fix it.

Mr. HECK. Okay. Well, thank you. Ironically, rural children today are almost as detached from food as some urban children. There are fewer smaller family farms, I suppose, but one of the biggest problems: well, one is, in fact, getting the food to the school in a safe way, and second, most schools aren't even equipped anymore to hold food that is fresh. We no longer have ovens in schools in many places. We no longer have stoves, we just have a warmer that you push a button and you warm up processed food. So one of the biggest challenges is: we can get fresh food to the school, but how do we cook it now? So I think that we need to supply schools and get cooking equipment back in schools.

I have been to school cafeterias where there are no knives. People don't even chop up anything anymore. So I mean it is a challenge. I think basic cooking equipment is one of those solutions.

The CHAIRMAN. Is that what you are doing in Buffalo, Tri-City?

Mr. HECK. Yes. Our chef at genHkids works very closely with the staff of the kitchen at Tri-City, and we are doing scratch—

The CHAIRMAN. Did you have to put cooking materials back in?

Mr. HECK. Yes. When I was in elementary school at Tri-City, we had cafeteria staff that were very adept at cooking. They were skilled cooks. And we even took turns in the cafeteria and we learned how to cook, which was something I don't see anymore. We actually went to the cafeteria and helped the school cooks cook food. So, yes. But now we do, we have purchased equipment. The school now has ovens, they have stoves, they have knives, they have cutting boards. So, yes, we work closely with that school. I visited the school the other day, and we walked in the school lunchroom and it smelled amazing. They were cooking whole chickens and preparing, I believe it was chicken and noodles. So it is not something you smell in a school cafeteria often, like the great smell of chicken noodle soup. So the chef commented too, she was ready to eat, so we even shared a meal there.

The CHAIRMAN. You are making us hungry.

Mr. HECK. I know.

The CHAIRMAN. Let the record show I have smelled some bad chicken noodle soup before too. Yes, they don't give us knives here either, Mr. Heck, or stoves, so maybe we have the same problem here.

I appreciate your time. I may get back to you with a few more questions, but I am going to defer to my colleague, Mr. Yoho, for a second round of questions. And hopefully they are as entertaining as the first.

Mr. YOH0. Thank you, Mr. Chairman.

And I appreciated, Mr. Heck, what you are talking about is, we need a paradigm shift is what I see, and get back to some of the basics. And that is true in a lot of things. I know it is true in farming. You go back to the basics on so many things that we need to do.

We are talking about direct marketing, and one of my biggest questions to all of you is what you have run into. We have large farms, we have small farms, and then you have specialized beef, with the Wagyu. When you go to direct marketing what is one of your biggest obstacles? Are you running into the box stores, the centralization? Like in our areas we have these mega grocery stores that, if I have to sell to that store, I have to go through a certain route. If I am a smaller farmer, I can't even qualify. What do you run into on that? We will start with you, Mr. Eilers.

Mr. EILERS. So as far as trying to get into one of those large grocery stores like that, I just don't have the animals to be able to back up that order if they were to come to me. And then, you have always got to talk about the price point. It costs me more because I am under 100 head of cows.

Mr. YOHO. Right.

Mr. EILERS. And it costs me more to produce them, so I have to find that specialty chef who really appreciates it, who really appreciates the local—and the big warehouse stores, I don't think they do.

Mr. YOHO. All right, so the goal is to start small with a couple of restaurants to feature your beef and brand it, and then grow from there. And that is the American way or the entrepreneurial spirit. But you were saying that you are trying to market at, it was Austin Farmers' Market. Is that a government subsidized one or—where they accept EBTs, or sanctioned by the USDA, or is it a private farmers' market?

Mr. EILERS. I have the feeling it is private, but when I went and talked to them and I told them I was coming to do this, they wouldn't return my calls. So I wouldn't—

Mr. YOHO. I get that often.

Mr. EILERS. Yes.

Ms. KUSTER. It is not for the same reason.

Mr. EILERS. It is so—

Mr. YOHO. Your time has expired. I am sorry.

Mr. EILERS. No, you are fine. So to tell you the truth, I don't know—

Mr. YOHO. Okay. If—

Mr. EILERS.—if it is one of those—

Mr. YOHO. If you would check into that and let us know, because if it is a USDA-sponsored one, the way I understand it is I don't think they can exclude you. The other thing you are running into, you said the nearest slaughter facility is 100 miles away?

Mr. EILERS. No, the nearest USDA inspector—

Mr. YOHO. Inspector.

Mr. EILERS.—slaughter. Yes.

Mr. YOHO. All right. Do you have one closer to you where you can hire the inspector to come in, because we have some customized facilities around us where they hire the inspector and—

Mr. EILERS. Correct. They can but to speak on your regulation issues, for example, one of the regulations is the USDA inspector has to have his own restroom facility just for him. And so the processing plants aren't willing to take that additional burden to be able to have that inspector on-staff there.

Mr. YOHO. Okay. And then, Dr. McCloskey, I just can't tell you how much I appreciate you bringing up the GMO issue. We hear that a lot. There is a lot of just misinformation out there, and it is something that we need to do a better job, it sounds like you are doing a great job on your farm too, to get that out there because we are going to nine billion people in this world and we can't feed them without GMOs. Like you said, the research has been there. Nobody can come up with a definitive disease, anything that has come from a GMO. And I agree with you, we all need to do that in the farming community. If somebody doesn't want to have a GMO, that is up to them, but like you said, it is going to drive the cost up.

And then one of the other things was the organic—well, I lost my train of thought here, so I am going to defer back to the Chairman here. It is all those years on the south end of a northbound cow.

The CHAIRMAN. And you wonder why we don't get knives. Do you need to put some gloves on, get you back to thinking again? Sorry. Inside ag joke. Dr. McCloskey gets it.

I will defer to Mr. Newhouse for his questions. Do you need 5 minutes or are you only going to take 3 like him?

Mr. NEWHOUSE. I will use his extra 2 minutes.

The CHAIRMAN. Okay.

Mr. NEWHOUSE. That kind of confirms why they don't give us knives, probably.

I just, again, thank you very much for your testimony. And, I have been working for a long time trying to bridge that gap between urban and rural, and reconnect people with agriculture, so all your efforts to do that is particularly interesting to me.

And I just wanted to go back to Dr. McCloskey. You talked, essentially, that we can no longer afford to have this conflict between ourselves in the agricultural industry, one side can't be vilifying the other, and I totally agree with you. I have seen that happen and it doesn't help anybody really. So maybe expand on that a little bit. How are we doing there in your estimation? Are we making progress, and what are some things that maybe the industry could do to help all of us be more cooperatively—not necessarily—we are not always going to agree on things, but certainly how can we as an industry work better together?

Dr. MCCLOSKEY. Right. I think that, unfortunately, we are not doing better on that. The consumer is more confused than ever. As social media and the areas where a consumer today gets their information, and who they trust and who they don't trust, we have to rebuild trust. So farmers are still very trusted within the consumers' eyes, and when us farmers are talking against each other is really where we are finally putting the nail in the coffin of being able to get there. So to me it is—again, it just goes back to the basic principles of the core values that farmers have. If you go down this table, we all have those same core values.

Mr. NEWHOUSE. Yes.

Dr. MCCLOSKEY. We care about safety, we care about quality, we care about the environment. We want to make sure that we produce what the consumer wants. And there is space for everyone.

Mr. NEWHOUSE. Yes.

Dr. McCLOSKEY. We just have to come together as an agriculture community and agree on those principles that we are not against each other, because all boats will rise, we just have to speak with the true science of what is out there because that is very important for the environment. We need to be able to embrace technology. We can't be anti-technology. What we need to make sure is that technology is safe, that is proven, that we understand it, and that we can communicate it to the consumer without the confusion that we are trying to do.

And, unfortunately, a lot of this comes down to competitive marketing.

Mr. NEWHOUSE. Yes.

Dr. McCLOSKEY. And I think that is socially irresponsible. When we, as farmers, grab onto that, because we are ignoring the damage that that is causing at the confusion level. So to answer your question, unfortunately, we are not doing what we should be doing. I am a big advocate for all type of farming, and I hope that that message continues to get out there, and that we can—

Mr. NEWHOUSE. Yes.

Dr. McCLOSKEY. This confluence of knowledge, the ladybugs, what is happening in the trees, I mean there is so much I can learn from other farmers, the small poultry operation, how do we take that stuff into larger scale and make what we are doing better, and how can we create technologies in larger scales and make what other people are doing better. I mean we all are in the same boat, and we all need to rise together.

Mr. NEWHOUSE. Yes.

Dr. McCLOSKEY. I thank you for listening to what I said and considering it important because it is what Fair Oaks Farms is about. I open the doors to all that public. It is a lot of people going through our farms every day. And our message is exactly that, is that we want farmers to see everything we do, we want them to understand that it is going to take every farmer in this country and around the world to be able to have that safe, affordable food, while taking care of the environment and being able to feed the nine billion people that we are going to have to deal with in 2050. Thank you.

Mr. NEWHOUSE. Yes. That is great, and I appreciate it. Just being here this morning, helping to get that message out, goes a long way. So I appreciate you saying that, and again, everybody's testimony today. Thank you very much.

I will give you back 35 seconds, Mr. Chairman.

The CHAIRMAN. Well, thank you very much, Mr. Newhouse. I appreciate the opportunity to see you once again today. And I know everybody is busy. I have some more hearings I have to go attend myself. But before we end the hearing, is there anything that one of you wants to maybe comment on that we haven't asked you about? I would like to limit the comments to less—not 5 minutes, but to a minute and a half, 2 minutes, if you have anything that you thought you might be able to bring up here that us on the Committee didn't get a chance to ask you.

Mr. Tonnemaker?

Mr. TONNEMAKER. Thank you, Mr. Davis. First of all, I want to applaud Fair Oaks Farms with their being able to put nutrients

back into the soil, and they are working on ways to be sustainable, because the big message that he was bringing across, and a lot of us are trying to say is, small farms, and I consider their farm a small farm from the standpoint of the mentality they are running their farm, they are trying to be sustainable, they want to have future generations work through it, they are not just a turn-it-and-burn-it, move onto the next piece of property. And that is something that we don't, as a society, put a price on resources and the lack thereof, they need to be sustainable, they need to be putting nutrients back in the soil when they are using them. They just can't devoid the land of nutrients, put a bunch of fertilizer in it that is going to acidify the soil, and then so the future generation can't farm there. They have to think smart, think sustainable, and that is something the government can maybe do with their education is labeling sustainability and how the farmer and the dairymen and the cattlemen are farming, is it sustainable, and then they can use that as maybe some sort of tax benefit or whatever to move the education that this farm is sustainable, and this farming practice is sustainable, and maybe lose some of the labels like he is talking about. And if we all move forward sustainable is the way of the future. Thank you.

The CHAIRMAN. Thank you. Anyone else? Mr. Heck?

Mr. HECK. Sure. I just wanted to maybe direct my next comment towards my previous experience with farming. And we have talked a lot about scaling up. I actually scaled down the last 2 years, and I feel that that is also an effective way to farm. We grew on less than an acre, and produced a substantial amount of food. So, through using organic compost and just really building our soils, we produced a significant amount of food. Went to 52 farmers' markets throughout the year and had a substantial product to show with just under an acre. So I just wanted to bring that up.

The CHAIRMAN. Thank you very much. Anyone else?

Ms. COFFIN. Sure. Two comments: One, I have to say I never thought that I would find something in common, farming in Massachusetts and Texas, but we too have to travel—

The CHAIRMAN. Neither did we.

Ms. COFFIN. We too find ourselves shipping our birds more than 100 miles to a USDA-inspected plant. So it is a problem not just in Texas, but around the country. And our second problem related to that is that we were certified, my husband is a Vietnam vet, and we are also able now to use the Homegrown by Heroes label, but there was a challenge with the slaughterhouse that we were using, trying to figure out how to do that, and just that sort of education and being able to work with the USDA inspector to be able to have the label that allowed that to happen, because it was a different size label. So that got very complicated.

And I guess my only other point, sort of in closing and thinking for the Committee and for all of us, is that, around the country that direct marketing is just so important in terms of market diversification. And when you look at the numbers of direct sales from direct markets still being pretty small for agriculture around the country, but it is a very important risk management strategy, at least in our neck of the woods, for people who are still willing and able to market wholesale, but having that extra opportunity, back

to what Mr. Tonnemaker said about the profit margin. So it is very important to think of it as part of that broader risk management strategy for agriculture.

The CHAIRMAN. Thank you very much. No comment from Texas to Massachusetts, Dr. McCloskey?

Dr. MCCLOSKEY. Yes. I would like to express a little more on what Ms. Coffin just addressed on direct marketing. We had the opportunity at one time when we started with many of our products, one of them the Fairlife Core Power products, that they were basically made in very small batches, and we went, ourselves as farmers, to different venues, be it farmers' markets, but more importantly, these were high protein products. So we were at every race we could be at and every spot we could be at. And that was a true direct marketing, and we shared the values that we have talked about today here with the consumer, and the taste and the quality of the product, and all these great things. That is how products really are going to get developed in the future, in my opinion. But that doesn't mean that you can't continue direct marketing as you get bigger. If you look at our Fairlife bottle today, which is distributed nationwide, but it started on what I just described, it has my wife's signature and my signature, with a promise of those same values that everyone here is delivering, and we are delivering that on a nationwide basis. There is great technology that allows us through HPP, high pressure pasteurizations and ultra-pasteurizations, and incredible new innovative packaging, that allows us to create local products that can travel the entire country, get there in less than 48 hours, and be as fresh as it could be local. And you can deliver still those values, and never losing those core values, and the promise that all of us like to give to those consumers. So it doesn't stop at the small. These core values can be on a nationwide basis.

The CHAIRMAN. What you have also done is reduce the cost to the consumers with your production of the Fairlife Milk, where folks who normally would have bought a single serve in disposable packaging are now able to get multiple servings of a higher protein, ultra-filtered milk, that they are able to consume the protein that they demand in a much more sustainable way, and also a more cost-effective way. So thank you. You cost my family less because my kids drink too much. So anyone else? All right, thank you everyone again for your time.

We will dispose of closing comments, other than I do appreciate each and every one of you coming out to this institution to offer your testimony. Your testimony will be utilized by many in this committee room, and the staff that so efficiently put these hearings together, to help us move forward good ag policy into the future. I know the next farm bill was mentioned by some of you numerous times. I hope we get to another farm bill and get another farm bill across the floor. The last one was pretty tough. But we need testimony like this to be able to develop good programs, and also to be able to change the existing programs that we currently operate under, and those existing policies that we currently operate under, to make them better for producers like you. So thank you for your time today.

Under the rules of the Committee, the record of today's hearing will remain open for 10 calendar days to receive additional material and supplementary written responses from the witnesses to any questions posed by a Member.

This Subcommittee on Biotechnology, Horticulture, and Research hearing is now adjourned.

[Whereupon, at 11:47 a.m., the Subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

Insert 1

Mr. YOHO. . . .

Mr. Tonnemaker, you brought up something, which I was glad to hear you say that. We need to get back to the basics about food safety, whose responsibility is it. We, as government, have certain regulations that people should meet, but over-regulations, as you said, like with the Food Modernization Act or the Food Safety Act, that burdensome mandate that came out, I have farmers in my area that grow tobacco, corn, cotton, watermelons, blueberries, and they say that costs them \$40,000 extra a year just in regulations, but it really didn't add to the food safety. What you are saying is we need to go back to education and tell people. I find it hard to believe that we have advanced this far, but people don't know to wash their vegetables, or, a chicken egg, it comes out of the cloaca of a chicken, you have to wash it. There are certain basic things that we need to teach. That goes back to kindergarten, stop, look, and listen before you cross the road. And we need to go back and educate the public.

I suggest that a person be tasked with determining what the **Goal of Food Safety** really is meant to accomplish.

Then the person could reduce the massive amount of paperwork down to what can reasonably be accomplished or controlled in the field.

Completing unnecessary paperwork is not the answer.

Getting Down to Basics and reducing the paperwork would allow the farmer to concentrate on implementation and the farming.

Farmers want **Safe Food** as much as the consumer, we just do not want to spend needless hours filling out paperwork.

Another real problem current farmers is a program to help existing farmers sell their farm to new farmers and possibly stay on the land too. The ability to restructure existing zoning and occupancy laws to encourage older farmers to stay on the farm and act as a resource for the new farmer. This could greatly improve the quality of life for the retiring farmer. The last thing we need is to put a useful people into a nursing home when they could really help the new farmer with first hand knowledge of their new farm.

Insert 2

Ms. GRAHAM. . . . There is a lot involved, and as you all pointed out, the age of the average farmer is in the sixties and there is not, unfortunately, the family continuation of the businesses that we have seen. So whatever we can do to encourage the next generation of farmers.

. . . Can you provide any guidance on what would be some additional marketing opportunities for the more vulnerable populations that might like to go into farming, or are in farming already?

Mr. TONNEMAKER. Well, thank you. I think one of the really important things that we have kind of touched on today is the difficulty of a person entering the market now, with the cost of the land and the cost of the equipment. A lot of people can run their business and can farm. There is the need for education, with regulation and making sure that you comply with all the regulations. But one of the main ills is getting help for people to understand that there are programs out there maybe that can help them, meet retiring farmers and find land, and also to find ways, so they can develop their product and—like driving 100 miles to get you beef slaughtered is a long way, and maybe help with education on how to run the facilities to reuse your byproducts that are left over from the dairy business. I think that kind of education, because it is intimidating, the laws out there, as far as where you can farm and how you can farm, and education is very, very important. And I wish I could be more specific, but I just think that focusing on education—

The farmers could form a co-op of growers that could approach restaurants or farmers' market with the ability to supply continuous amount of vegetables over the season. They could also set up a center shared farm store which they all supply with produce.

The farmers could share resources. Spreading out equipment and capital to allow each farmer to spend less during start up.

Each farmer could specialize in producing one or two items on a regular basis thus reducing the need buying several types of seeds in quantity.

Restaurants want guaranteed product availability over the entire season. Sharing the burden might allow farmers to approach more restaurants or sell at more farmers' markets.

USDA program **StrikeForce** was not rolled out in New Hampshire, Florida, or Washington in 2015.

Another really tough issue faces new farmers is being able to live on the farmland. Many farms in Western Washington are on flood plains or in areas with high water tables. These farmhouses have septic systems that are no longer in compliance.

Since the septic systems are out of compliance no modernization to homes can be done. This is very hard on **Modern** farmers who wish to update electrical or plumbing to today's standards.

One solution would be for the USDA to help adopt some new standards in what methods are available for these septic systems.

One example would be a **Manufactured Wetlands Septic System**. This system utilizes several ponds and modern materials to treat the gray water so the end product can be used to irrigate. This method is not currently approved in the United States nor at the state level but could provide future and current farmers with a awesome tool.

Æ