Changing the Way We Look at Agriculture:

Opportunities for RDNs

January 26, 2015

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Amy Myrdal Miller, MS, RDN, FAND

@EatRightPRO
Objectives

- Describe the current state of US farming.
- Identify at least two innovative advances in agriculture globally.
- Name at least one action affiliates and DPGs can take to help members be more informed of agriculture practices.
Speakers

Abigail Copenhaver, RDN, CDN
Farmstead Nutrition and Consulting, LLC
Ivy Lakes Dairy, LLC

Amy Myrdal Miller, MS, RDN, FAND
Founder and President
Farmer's Daughter Consulting, LLC

Lisa Medrow, RDN, LD
Foundation Project Specialist
Academy of Nutrition and Dietetics Foundation
Future of Food Initiative
Academy of Nutrition and Dietetics Foundation
Improving Food Security: Dietitians Bring Nutrition to the Table

POSTED ON JUNE 14, 2012

Ethan Bergman, President of the Academy of Nutrition and Dietetics, addresses the Future of Food Conference in Washington, D.C. Photo courtesy of Washington Post Live.

By Ethan A. Bergman, PhD, RD, FADA, CD
President
Academy of Nutrition and Dietetics
Future of Food Resources for Members

- Hunger Actions and Resources added to www.kidseatright.org/volunteer

- Toolkits www.kidseatright.org/volunteer
  - Hunger in Our Community. What We Can Do.
  - Smart Choices. For a Healthy Planet. (English & Spanish!)

- Feeding America’s Healthy Food Bank Hub www.healthyfoodbankhub.org

- Food Insecurity and Food Banking Supervised Practice Concentration www.healthyfoodbankhub.org
Future of Food Education for Members

• Webinars [www.eatrightfoundation.org](http://www.eatrightfoundation.org)

• Infographics [www.eatrightfoundation.org](http://www.eatrightfoundation.org)

• “Changing the Way We Look at Agriculture” 2015 Affiliate Presentations

• 2014 FNCE Symposium: “The RDNs Guide to Plentiful, Nutrient Dense Food for the World”

• 2015 FNCE Symposium “A Balanced Approach to Understanding the Science of Antibiotics in Animal Agriculture”
Future of Food Research Projects

- Indianapolis RD Parent Empowerment Program with supplemental food research project

- Foundation Agriculture, Nutrition, and Health Research Fellow: Chris Vogliano, MS, RD, LD
  - Consensus Conference & proceedings paper
  - Healthy Food for a Healthy Planet webpage working group
  - FNCE Symposium proceedings paper
  - Food Waste in the US manuscript & white paper
  - Food waste dietetic internship research project
Last year our donors’ generosity helped us award:

$545,000 in student scholarships to 381 students

$12,500 in student stipends to help students attend FNCE.

$40,000 through Home Food Safety Challenge grants to dietetics students.

www.eatrightfoundation.org
Disclosure

- Owner of Farmstead Nutrition & Consulting, LLC and Ivy Lakes Dairy, LLC
- Dietitian at Child Care Council (Rochester, NY)
- Member of Farm Bureau, Northeast Dairy Foods Association
- Consulting for the American Dairy Association and Dairy Council
Speaker: Abigail Copenhaver

Academy of Nutrition and Dietetics Foundation
Future of Food Initiative
US Farming Facts

Fast Facts About U.S. Farms

Most Farms are Family Farms

5% corporate farms

7% family partnerships

87% operated by families

2.1 million farms in U.S.

915 million farm acres in the U.S.
Who Grows Our Food?
A Profile of American Farmers

While less than 2% of US population are farmers, they help to feed 100% of the US population! 1
Who Grows Our Food?
A Profile of American Farmers

8.5 out of every 10 farmers is male.
Who Grows Our Food?  
A Profile of American Farmers

Average age of a farmer in the U.S. is 58

- 20-30
- 30-40
- 40-50
- 50-60
- 60-70
Who Grows Our Food?
A Profile of American Farmers

9 out of every 10 farmers have some college education or a 4-year degree.
Forecasted Farm Economy

Average net cash incomes are forecast down for farm businesses in all regions in 2015 relative to 2014.

Source: ERS partial model based using the 2013 Agricultural Resource Management Survey (ARMS) and parameters from the sector forecasts. The model is static and therefore does not account for changes in crop rotation, weather, and other local production impacts that occurred after the base year.

Future Farmer Trends


The Faces of U.S. Agriculture

The 2012 Census of Agriculture lets us know who is involved in U.S. agriculture—from family farmers to hired labor, and from new, beginning farmers to next-generation farmers. Census data help inform smart policymaking to benefit farmers and ranchers, their communities, businesses, and industries.

3.2 MILLION
The number of all farm operators in the U.S. in 2012.
That’s more farmers than the entire population of Iowa.
Down 3% from 2007.

22 PERCENT
The percent of all farmers in the U.S. who were beginning farmers in 2012.
That means 1 out of every 5 farmers operated a farm for less than 10 years.

87 PERCENT
The percent of farms that are operated by families or individuals in the U.S.
Of the total number of operators, 2.4 million live on their farms.

969,672
The number of all female farm operators in 2012.
That’s 10% of all farm operators in the United States.

58 YEARS
The average age of a principal farm operator. The average age is generally highest in the south, and lowest in the upper plains.

Top 5 States by Total Number of Hispanic Farm Operators, 2012

<table>
<thead>
<tr>
<th>State</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas</td>
<td>36,264</td>
</tr>
<tr>
<td>California</td>
<td>15,129</td>
</tr>
<tr>
<td>New Mexico</td>
<td>13,195</td>
</tr>
<tr>
<td>Florida</td>
<td>6,646</td>
</tr>
<tr>
<td>Colorado</td>
<td>3,235</td>
</tr>
</tbody>
</table>

2.7 MILLION
The number of hired farm workers in 2012.
Up 4% from 2007.
Hired farm workers account for less than 1% of all U.S. wage and salary workers but are vital to agriculture production.

257,454
The number of Millennial Generation farmers age 34 or younger in the U.S. in 2012.
That’s more than 4 times the enrollment of Texas A&M University.

Source: 2012 Census of Agriculture, May 2014
Future Farmer Trends

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U.S. Food Imports

U.S. perishable food imports in 2007 mostly came from neighboring countries

Imports, billion dollars

<table>
<thead>
<tr>
<th>Category</th>
<th>Imports (billion dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh fruit</td>
<td>8.9</td>
</tr>
<tr>
<td>Fresh vegetables</td>
<td>4.1</td>
</tr>
<tr>
<td>Fresh chilled seafood</td>
<td>2.1</td>
</tr>
<tr>
<td>Processed fruit products</td>
<td>3.9</td>
</tr>
<tr>
<td>Processed vegetable products</td>
<td>2.9</td>
</tr>
<tr>
<td>Frozen/smoked/dried seafood</td>
<td>8.4</td>
</tr>
</tbody>
</table>

- **Canada**
- **Mexico**
- **Other Western Hemisphere**
- **China**
- **Other Asia**
- **Other**

U.S. Agriculture Exports

U.S. agricultural exports, imports, and trade balance, 2000-13*

*2013 = forecast through September 2013.
The State of Global Health & Nutrition
State of Global Health

- **Undernutrition** is responsible for 3 million deaths each year – That’s 45% of deaths in children under 5.

- In 2011 there were 165 million children under 5 with **stunted growth**.

- **Suboptimal breastfeeding** results in more than 800,000 child deaths annually.

- Fetal growth restriction causes 12% of annual **neonatal deaths**.

*The Lancet – June 2013*
Understanding the Context

34 countries bear 90% of the global burden of undernutrition

Advances in Agriculture
Benefits of Agriculture Advances

- Access to healthy food
- Food production
- Environmental impact
Who is advancing agriculture innovation to achieve food security and healthy food systems?

- Government
- Nonprofit organizations/foundations
- Industry and farmers
Government

Advances in Agriculture
1. **Integrating sustainability** issues and approaches into a range of **USDA science priorities**, including food security, crop and animal production and protection, bioenergy, climate change, and natural resource management.

2. Building a **framework for sustainability data** and information, and supporting research, education, and extension efforts to develop critical scientific and management information to fill gaps in the framework.
3. **Advancing the understanding** of local and regional **food systems**, a key part of the **USDA strategy** for rural prosperity and a promising market for connecting producers with consumers, many of whom are interested in farmers and land management.

4. **Improving** the performance of **organic agriculture** (the largest of the “transformative system” examples described in the NRC report).
WHO and FAO\textsuperscript{15,16}

World Health Organization (WHO)
Authority for health within United Nations

Food and Agriculture Organization (FAO)
• Works to achieve food and nutrition security globally
Government
Nonprofit organizations/foundations
Advances in Agriculture
Examples from Academy Position Paper

Feed the Future

Save & Grow

Urban Harvest

Bangladesh Homestead Food Production Program


**ABSTRACT**

It is the position of the Academy of Nutrition and Dietetics that all people should have consistent access to an appropriately nutritious diet of food and water, coupled with a sanitary environment, adequate health services, and care that ensure a healthy and active life for all household members. The Academy supports policies, systems, programs, and practices that work with developing nations to achieve nutrition security and self-sufficiency while being environmentally and economically sustainable. For nations to achieve nutrition security, all people must have access to a variety of nutritious foods and potable drinking water; knowledge, resources, and skills for healthy living; prevention, treatment, and care for diseases affecting nutrition status; and safety-net systems during crisis situations, such as natural disasters or deleterious social and political systems. More than 2 billion people are micronutrient deficient; 1.5 billion people are overweight or obese; 870 million people have inadequate food energy intake; and 783 million people lack potable drinking water. Adequate nutrient intake is a concern, independent of weight status. Although this article focuses on nutritional deficiencies in developing nations, global solutions for excesses and deficiencies need to be addressed. In an effort to achieve nutrition security, lifestyles, policies, and systems (e.g., food, water, health, energy, education/knowledge, and economic) contributing to sustainable resource use, environmental management, health promotion, economic stability, and positive social environments are required. Food and nutrition practitioners can get involved.
Working with business, government and communities to find and influence the adoption of solutions that will improve efficiency in the use of natural resources, reduce waste, and eliminate illegality.

We have to do more with less. Much less.

“Supply risk from unsustainable sourcing can destroy reputations, brands, biodiversity, communities and generate expensive legal disputes to companies and government”.

World Wildlife Fund

Nonprofit organizations
Industry and farmers

Advances in Agriculture
Industry and farmers

ENVIRONMENTAL PRIORITIES

THE PRODUCTION OF DAIRY PRODUCTS IN THE U.S. CONTRIBUTES

~2% of total U.S. GHG emissions

25% ENTERIC

22.7% MANURE MANAGEMENT

On the farm, feed efficiency and manure management present opportunities to reduce GHG emissions.

36.6% FUEL & ELECTRICITY

Carbon Footprint of Fluid Milk by Source

ENERGY

ENERGY USAGE OCCURS ACROSS THE ENTIRE DAIRY VALUE CHAIN.
Efficiency

Total Milk Cows & Milk Production per Cow, 1944-2007

Industry and farmers

Environmental Impact of U.S. Beef Production has been Reduced by Improved Productivity

- Animals: 70%
- Feed: 81%
- Water: 88%
- Land: 67%
- Carbon Footprint: 84%

Examples of Agriculture Innovations

Innovations in agriculture technology help to use fewer resources, including fertilizer, pesticides, water, etc.

Examples:
• Technology to maximize crop space
• Satellite imagery to survey soil
• Technology to increase drought tolerance
• Precision agriculture tools to reduce inputs and improve efficiency
In Summary:

• US Farmers & the State of US Farming

• State of Global Health & Nutrition

• Innovations in Agriculture
  • Government
  • Nonprofit organizations/foundations
  • Industry and farmers
What Can Academy Members Do?

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Founder & President
Farmer’s Daughter Consulting, LLC
Disclosure

Financial Disclosures

• American Beverage Association
• The Culinary Institute of America
• McDonald’s USA (*Northern California Owner-Operators Cooperative*)
• Monsanto L.E.A.D. Network Member
• National Dairy Council Ambassador
• Northarvest Bean Growers Association
• Passionate Food Group
• *Produce Business* magazine
• Star Ginger Restaurants
• Plus honoraria for speaking
What Can Academy Members Do?

- Educate
- Advocate
- Communicate
Educate through Events

Maryland RDNs Connect with Farm Women through Common Ground™
Educate through Events

Ohio RDs Experienced the Journey of Milk from Farm to Lunch Tray
Educate through Events

2014 Wheat Foods Council

“Wheat Safari”

2014 Wheat Foods Council

“Wheat Safari”
Educate through Events

2014 California Beef Council Beef Sustainability Event

Dr. Frank Mitloehner, UC Davis

Beef Sustainability CE Event Attendees
Get involved in DPGs strongly supporting agricultural issues, including:

- Hunger and Environmental Nutrition (HEN)
- Food & Culinary Professionals (FCP) Ag Subgroup

Find out more about Future of Food and view recorded webinars

www.eatrightfoundation.org
SMART CHOICES For a Healthy Planet Toolkit

• 25-minute PowerPoint presentation plus 5-minute suggested activity

• Target audience: adults or mature teens

• Toolkit includes notes pages and downloadable handout

• Available in English and Spanish

• FREE!

• Available to download at

  www.kidseatright.org/volunteer
Educate: Ag in the Classroom

www.agclassroom.org
Educate: Farm to School Programs

Bringing the farm to school

4,322 districts
40,328 schools
23,513,237 children

www.fns.usda.gov/farmtoschool
Advocate: Promote Grower-Buyer

Grower-Buyer Expos

• Expand opportunities for more local products in schools, hospitals, institutions or supermarkets.
• Opportunity for growers to increase local distribution.
• Excellent way for RDNs to connect with farmers.
• **Supplemental Nutrition Assistance Program (SNAP)**
  o *Supplemental income for 47 million low-income Americans*
• **The Emergency Food Assistance Program (TEFAP)**
  o *Supplemental food for emergency situations, provided through food banks*
• **Commodity Supplemental Food Program (CSFP)**
  o *Provides USDA Foods to 575,000 low-income seniors*
• **Fresh Fruit and Vegetable Program (FFVP)**
  o *Provides funds for free F&V snacks to school children in low-income districts*
• **SNAP Nutrition Education (SNAP-Ed)**
  o *Provides nutrition education for low-income families*
• **Beginning Farmer and Rancher Development Program**
  o *Provides grant funds for training programs for new farmers & ranchers*
• **Conservation Stewardship Program (CSP)**
  o *Provides funding for farmers & ranchers that help conserve natural resources*
• **Environmental Quality Incentives Program (EQIP)**
  o *Provides incentives for farmers & ranchers to implement conservation practices*
• **ACA/IRS:** Nonprofit hospitals can now claim tax credits for nutrition aid provided to local communities
Grassroots Manager

With just a few clicks of your mouse, you can have your voice heard. Use the Academy’s Grassroots Manager program to email a letter to your member of Congress. The Academy will often post pre-written letters for you to send to your representatives asking for their support in legislation dealing with food, nutrition and health. It is important that Academy members are heard. If you don’t let your member of Congress know what is important to you, then others will.

Tags Advocacy, Action Center, Local Advocacy
**Communicate: Food Waste**

**USDA & EPA “U.S. Food Waste Challenge”**

- **Reduce** food waste by improving product development, storage, shopping/ordering, marketing, labeling, and cooking methods.

- **Recover** food waste by connecting potential food donors to hunger relief organizations like food banks and pantries.

- **Recycle** food waste to feed animals or to create compost, bioenergy and natural fertilizers.

Communicate: Farm to Table Dinners
California State University, Sacramento students volunteering at a “Nutrition Fuels Fitness” race. Race proceeds benefited local organizations working to reduce childhood obesity.
Communicate: Social Media

Where Food Begins. First-ever World Soils Day by UN kickstarts 2015 International Year of Soils. #rdchat

Sold 22,500 bushels of #RealFood fresh green beans from our #EasternShore #Maryland farm this year. #FarmToGroceryStore

Day #4 #RealSchoolFood: IT'S ALL ABOUT LOCAL wp.me/p27H7R-jR @FoodCorps makes @FarmtoSchool work @FoodCorpsMT

Interactive #infographic by @NatGeo on what the world eats on.natgeo.com/1rdXmrR #FutureofFood
Communicate: Share Resources

http://www.ers.usda.gov/


http://www.csrees.usda.gov/Extension/

http://www.fao.org

http://www.aplu.org/document.doc?id=780
In Summary:

- Educate
- Advocate
- Communicate

Take the Challenge!
Changing the Way We Look at Agriculture: Opportunities for RDNs

QUESTIONS?
References


5. 2012 Census of Agriculture


8. USDA 2012 Census of Agriculture Infographic.
References, continued


References, continued


References, continued


References, continued

References, continued


36. Academy of Nutrition and Dietetics Grassroots Manager Webpage.  

37. USDA Office of the Chief Economist Webpage.  