

“Can Local Foods Make an Economic Impact?”

Dave Swenson

Iowa State University



Questions that I've been asked to address

1. What are important factors within a community or region to help a local/regional food economy thrive?
2. What kinds of jobs are made available by growth in the trade of foods locally or regionally? How do you evaluate the labor force?
3. What infrastructure hurdles need to be addressed? Utilities, transportation, facilities....
4. How do you measure the overall economic impact to the local, state, and/or national economy?

Begin with a discussion of our research to date

Leopold Center project in 2005

Three “what ifs”:

- 1. lowans produced 25 percent of their annual consumption of 37 F & Vs – just farm level**
- 2. lowans were able to actually direct market this produce (in whole or part)**
- 3. lowans actually, using a nutritional goal, consumed 5 servings of F & Vs daily, 25 percent of which were grown and distributed by lowans (and part was directly marketed)**

Tools

- **Iowa produce market calculator**
- **Input output modeling of the Iowa economy, with modifications**
- **Ag census information to discern existing F & V productivity**
- **Understanding of the land requirements**
- **Fabrication of a direct sales sector**

How are economic impacts discerned?

- **Demonstrating a net gain in regional productivity through,**
 - **Export enhancement**
 - or**
 - **Import substitution**
- **After taking into account existing F & V production**
- **After taking land away from conventional farming**
- **Other offsets**

Original scenarios 1 & 2

Twenty-five percent of 37 selected fruits and vegetables consumed (at current rates) in the state over a calendar year are grown by Iowa farmers?

Apples, Apricots, Asparagus, Beans (Snap), Blackberries, Blueberries, Broccoli, Cabbage, Cantaloupes, Carrots, Cauliflower, Cherries, Cucumbers, Eggplant, Garlic, Grapes, Greens/Collards, Lettuce (Head), Lettuce (Leaf), Nectarines, Okra, Onions, Peaches, Pears, Peppers (Bell), Plums, Potatoes (Fresh), Potatoes (Sweet), Pumpkins, Radishes, Raspberries, Spinach, Squash, Strawberries, Sweet Corn, Tomatoes, Watermelons

Assumptions

- ✓ **Increased production in fruits and vegetables will reduce corn and soybean production**
- ✓ **Half of the new fruit and vegetable sales would be farmer to consumer (direct-market) sales, the other half are wholesaled and retailed conventionally**
- ✓ **Existing food store retail sales (actually retail margins) will be reduced by an amount proportionate to coincide with the new direct market sales**
- ✓ **All of the production to meet this goal of 25 percent is for in-state consumption (therefore, primarily import substitutes)**

Farm Level Outcomes

	Direct	Indirect	Induced	Total	Total Multiplier
Fruit and Vegetable Farming					
Total Industrial Output \$	37,070,248	9,007,737	9,515,237	55,593,224	1.50
Labor Income \$	9,629,401	3,319,123	3,056,805	16,005,329	1.66
Jobs	190	124	120	434	2.28
Grain and Soybean Offset					
Total Industrial Output \$	(4,010,383)	(1,261,203)	(1,134,362)	(6,405,948)	1.60
Labor Income \$	(1,107,308)	(406,059)	(364,417)	(1,877,784)	1.70
Jobs	(42)	(14)	(14)	(71)	1.69

Combined Outcomes

	Direct	Indirect	Induced	Total
Total Economic Effects				
Total Industrial Output \$	64,020,381	17,702,671	22,846,161	104,569,216
Labor Income \$	24,552,446	6,171,752	7,339,397	38,063,595
Jobs	852	204	288	1,345
Total Economic Impacts (considering existing production)				
Total Industrial Output \$	56,336,321	15,577,904	20,104,046	92,018,273
Labor Income \$	21,605,534	5,430,986	6,458,484	33,495,004
Jobs	750	180	253	1,183

Scenario Next: 5 a Day

- **Apples, carrots, spinach, squash, tomatoes**
 - **Yum! Nutritionally dense – but no taters!**
 - **Can be grown in all areas of Iowa and/or store well.**
- **Iowans produce an amount equivalent to 3 months of a daily serving of each for everyone in the state**
- **Iowans actually eat these items**



IOWA STATE UNIVERSITY

Farm Level Outcomes

	Direct	Indirect	Induced	Total	Total Multiplier
Fruit and Vegetable Farming	101154653.8				
Total Industrial Output	101,154,654	24,361,712	25,994,733	151,511,099	1.50
Labor Income	26,389,490	8,941,004	8,350,902	43,681,396	1.66
Jobs	492	333	328	1,152	2.34
Grain and Soybean Offset	(9,697,456)				
Total Industrial Output	(9,697,456)	(3,049,699)	(2,742,986)	(15,490,141)	1.60
Labor Income	(2,677,568)	(981,886)	(881,191)	(4,540,645)	1.70
Jobs	(101)	(35)	(35)	(170)	1.68

Combined Outcomes

	Direct	Indirect	Induced	Total
Total Economic Effects				
Total Industrial Output	202,114,674	55,183,623	73,899,866	331,198,164
Labor Income	80,453,845	19,082,675	23,740,557	123,277,077
Jobs	2,928	624	931	4,484
Total Economic Impacts				
Total Industrial Output	184,529,714	50,382,379	67,470,218	302,382,311
Labor Income	73,453,969	17,422,390	21,675,013	112,551,371
Jobs	2,674	570	850	4,094

Next Projects

- **NE Iowa research combining a complete diet of locally grown foods – fruits, vegetables, grains, dairy, and meats**
- **SW & SE Iowa regional food groups investigating their locally grown production potential**

Let's step back and start with an actual economy

In all systems, historically, broad-based non-ag economic productivity follows food self-sufficiency

There is a hierarchy that establishes itself:

- Production surplus is exchanged for goods, services, and more productive technology
- New technology boosts production
- Over time, labor and production systems tend to specialize, depending on resource endowments
- Comparative advantages become more pronounced
- Efficient production in one place drives out inefficient production in others

Here's the good part

Areas that are highly productive trade their specialties with specialties from other areas

Hence,

The economy is, overall, more efficient and our collective welfares are maximized

It's known as the market.

Regional specialization and economy of scale production systems dominate our food production

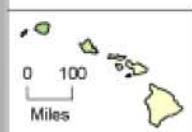
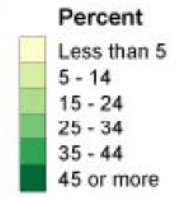
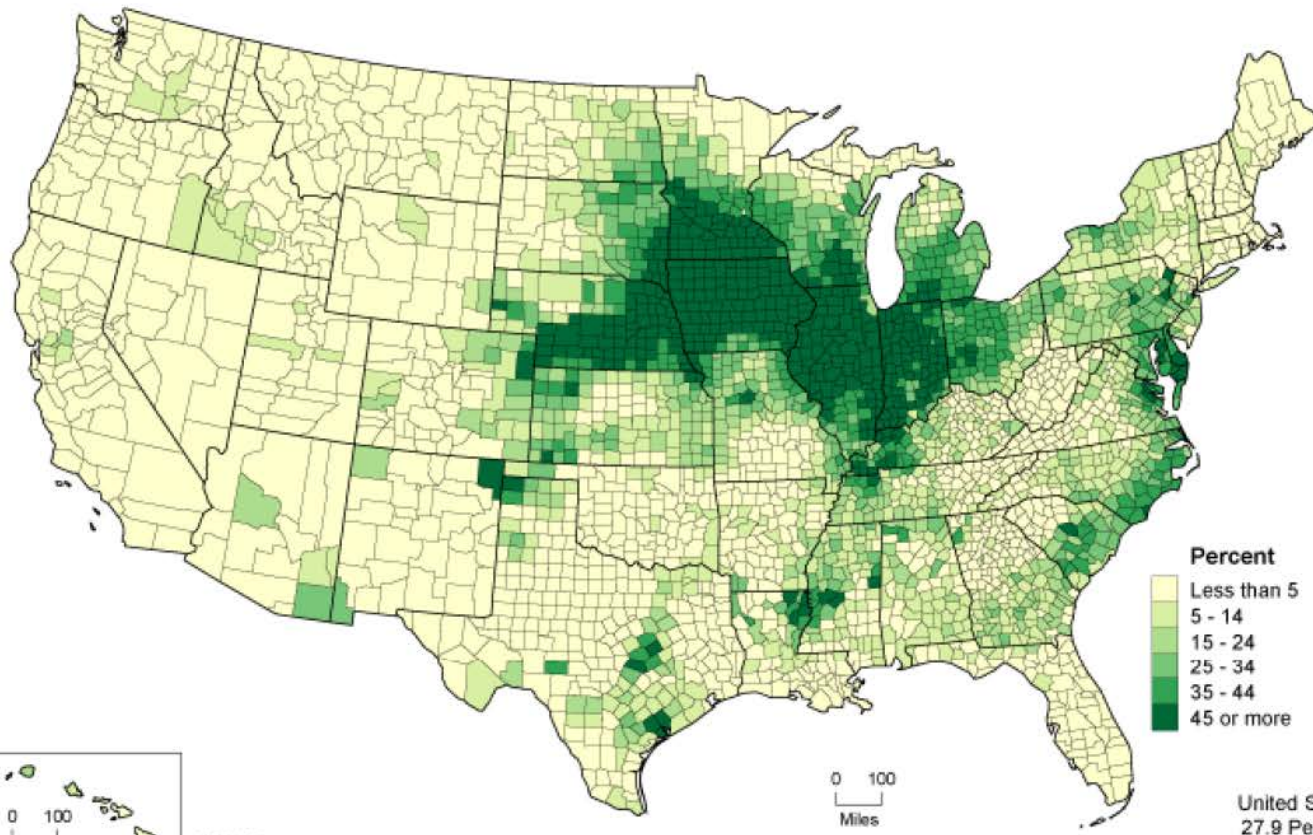
In Iowa in 2007,

20 percent of farms accounted for 83 percent of total sales (\$20.42 billion) – almost \$1.1 million per farm.

The remaining 74,284 Iowa farmers shared among them a total of \$3.5 billion in sales or \$46,730 per operation.



Acres of Corn Harvested for Grain as Percent of Harvested Cropland Acreage: 2007

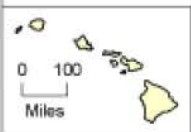
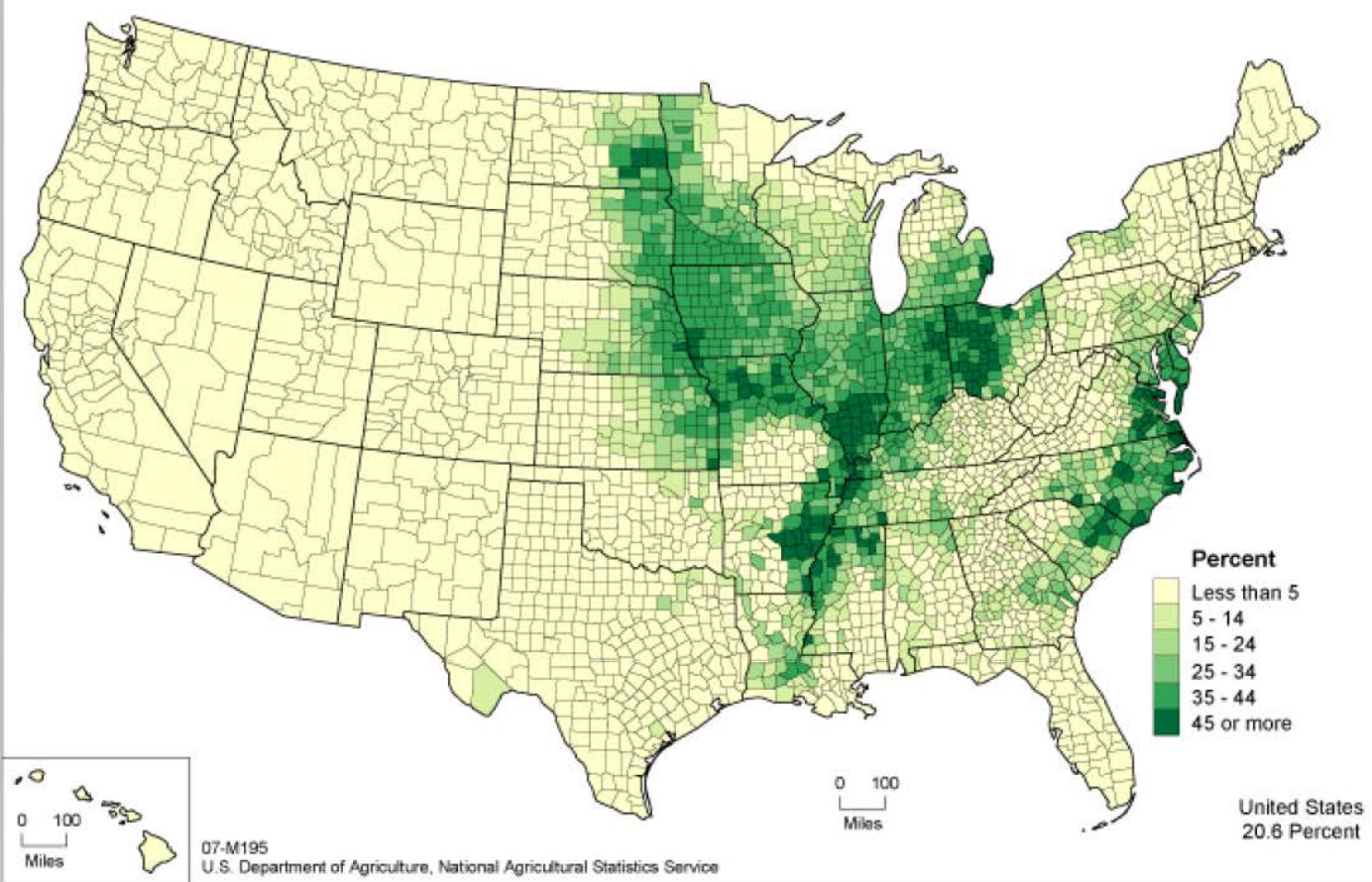


07-M165
U.S. Department of Agriculture, National Agricultural Statistics Service

United States
27.9 Percent

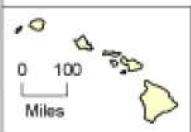
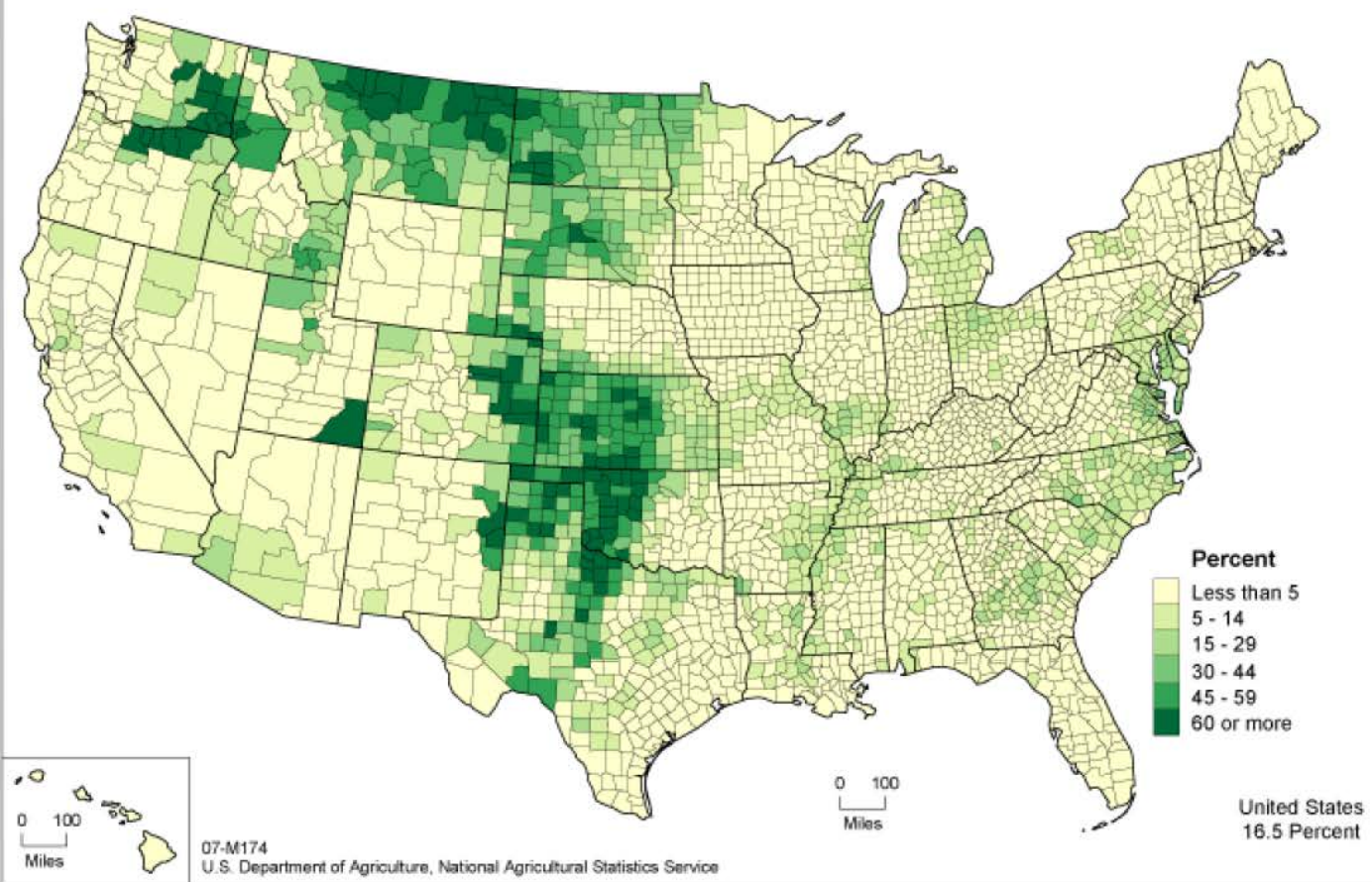


Acres of Soybeans Harvested for Beans as Percent of Harvested Cropland Acreage: 2007





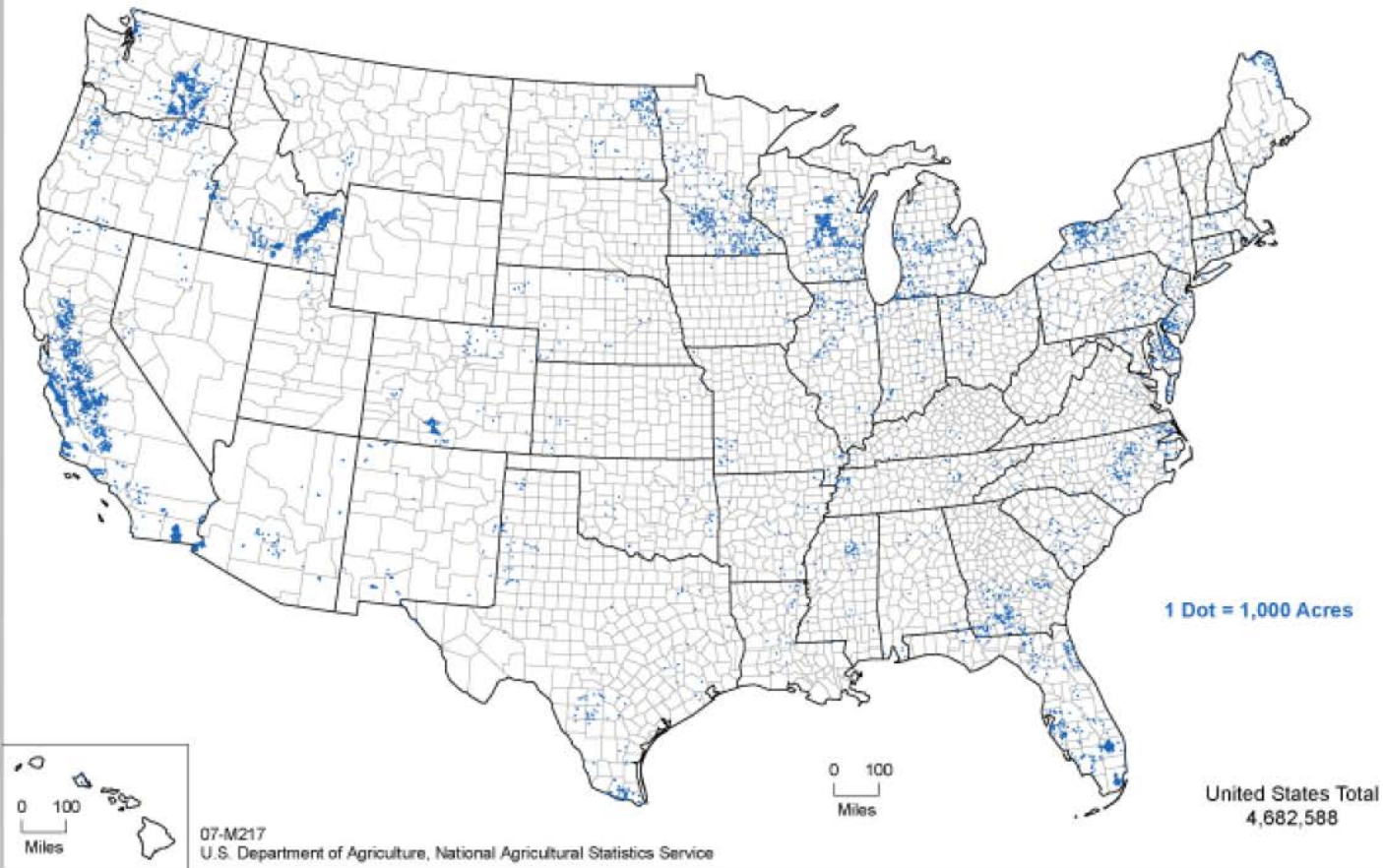
**Acres of All Wheat Harvested for Grain
as Percent of Harvested Cropland Acreage: 2007**



07-M174
U.S. Department of Agriculture, National Agricultural Statistics Service

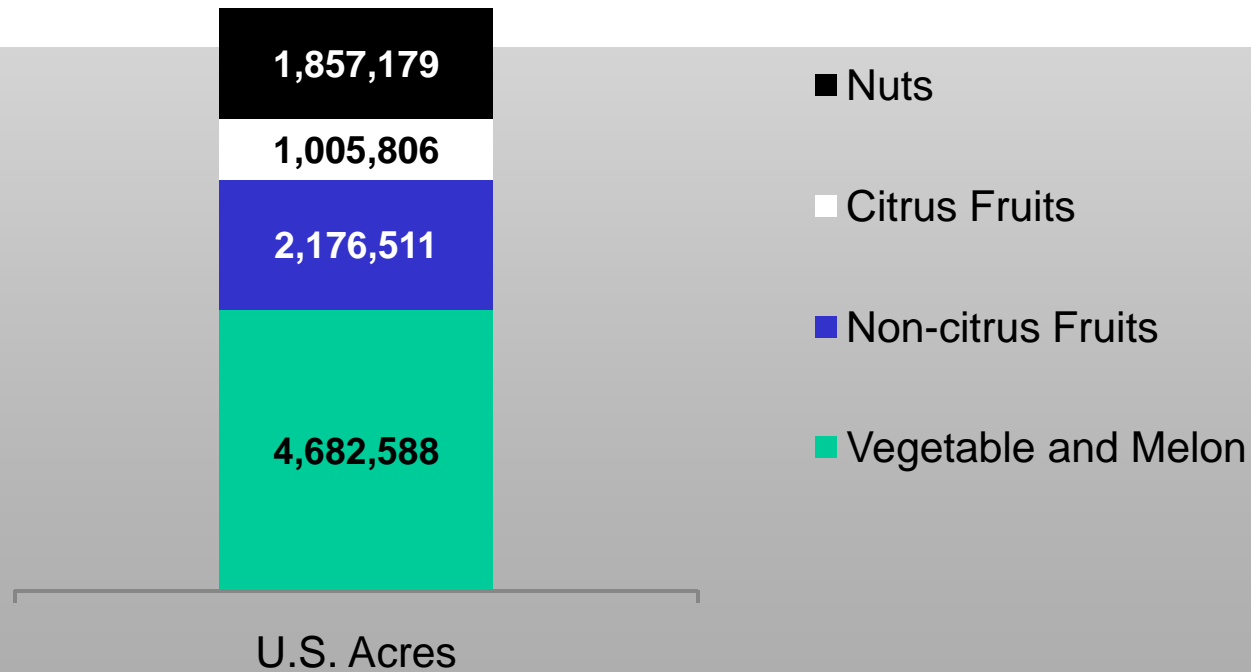


Vegetables, Acres Harvested for Sale: 2007

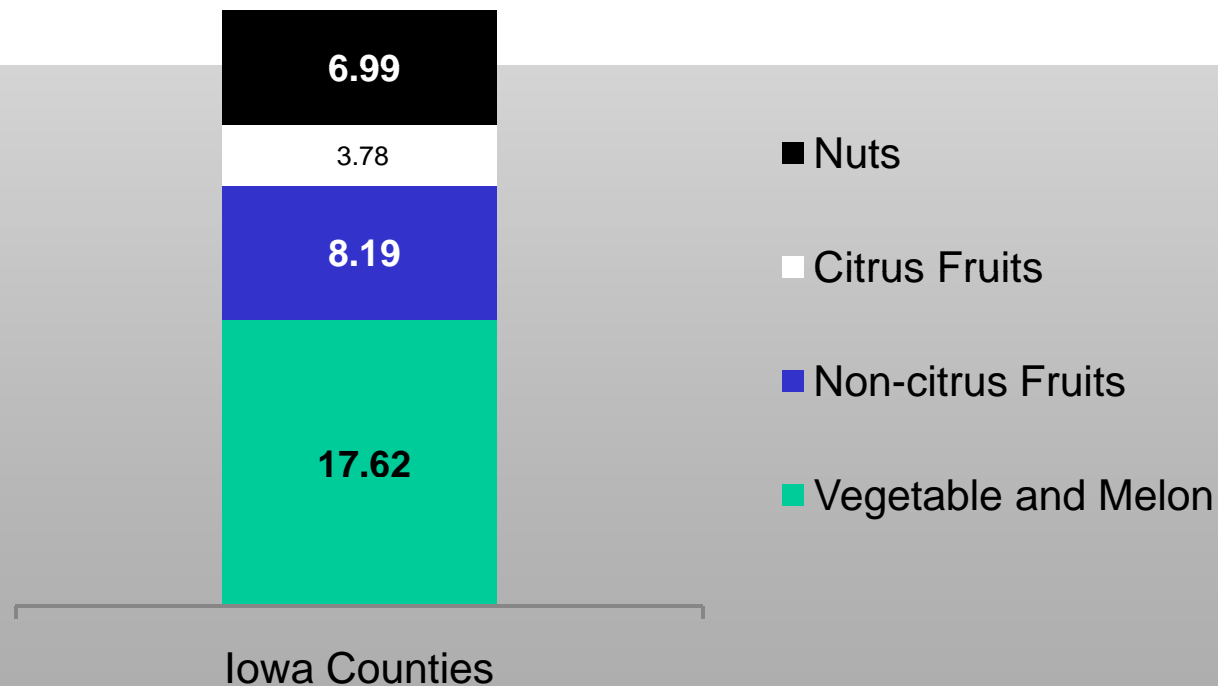


07-M217
U.S. Department of Agriculture, National Agricultural Statistics Service

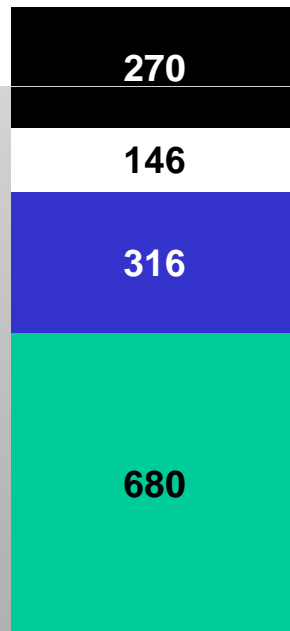
U.S. Fruits, Vegetables & Nuts Acres



Iowa County Equivalents



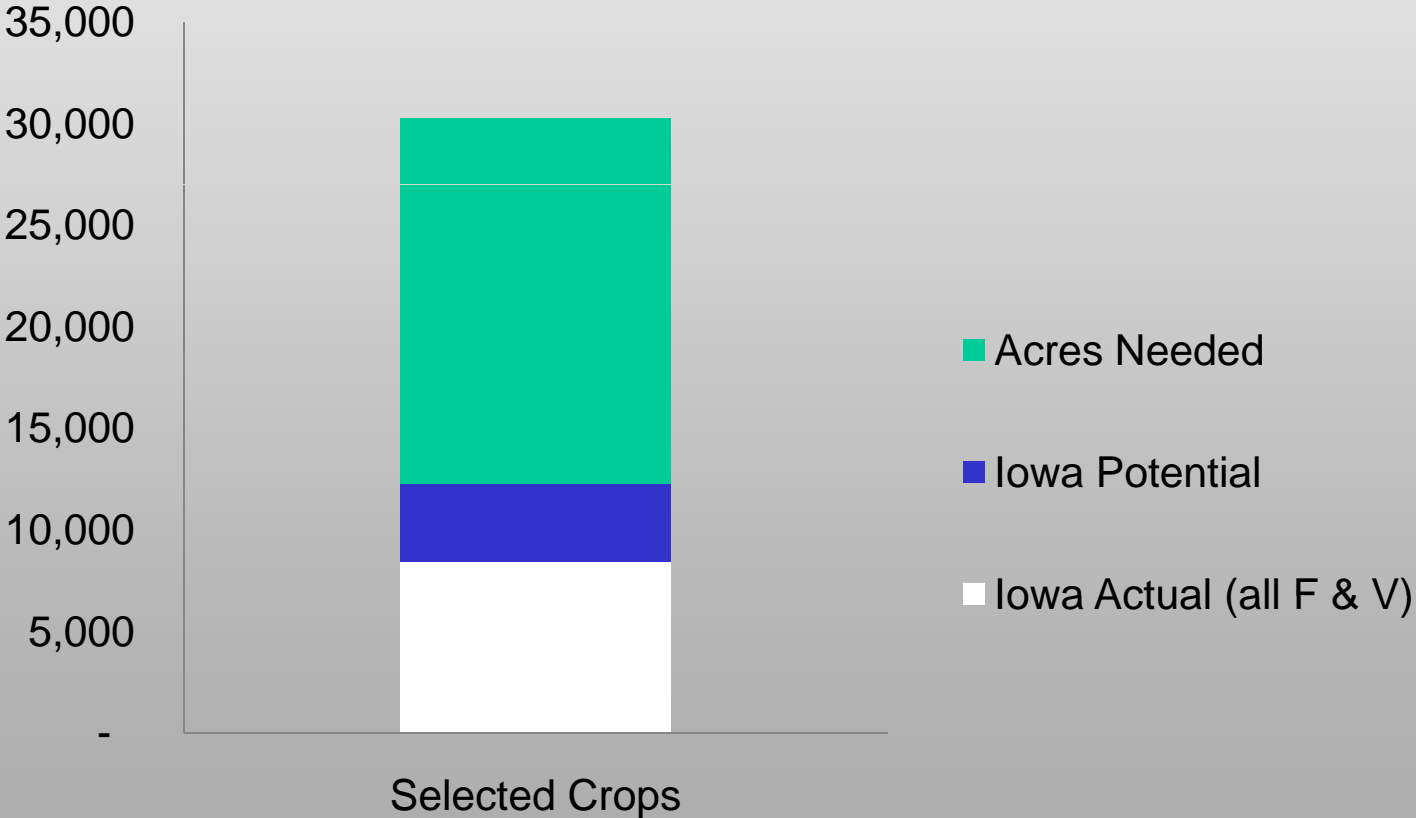
National Average Square Feet Needed Per Capita (1,414' or about 38' X 38' or 3.3 percent of an acre)



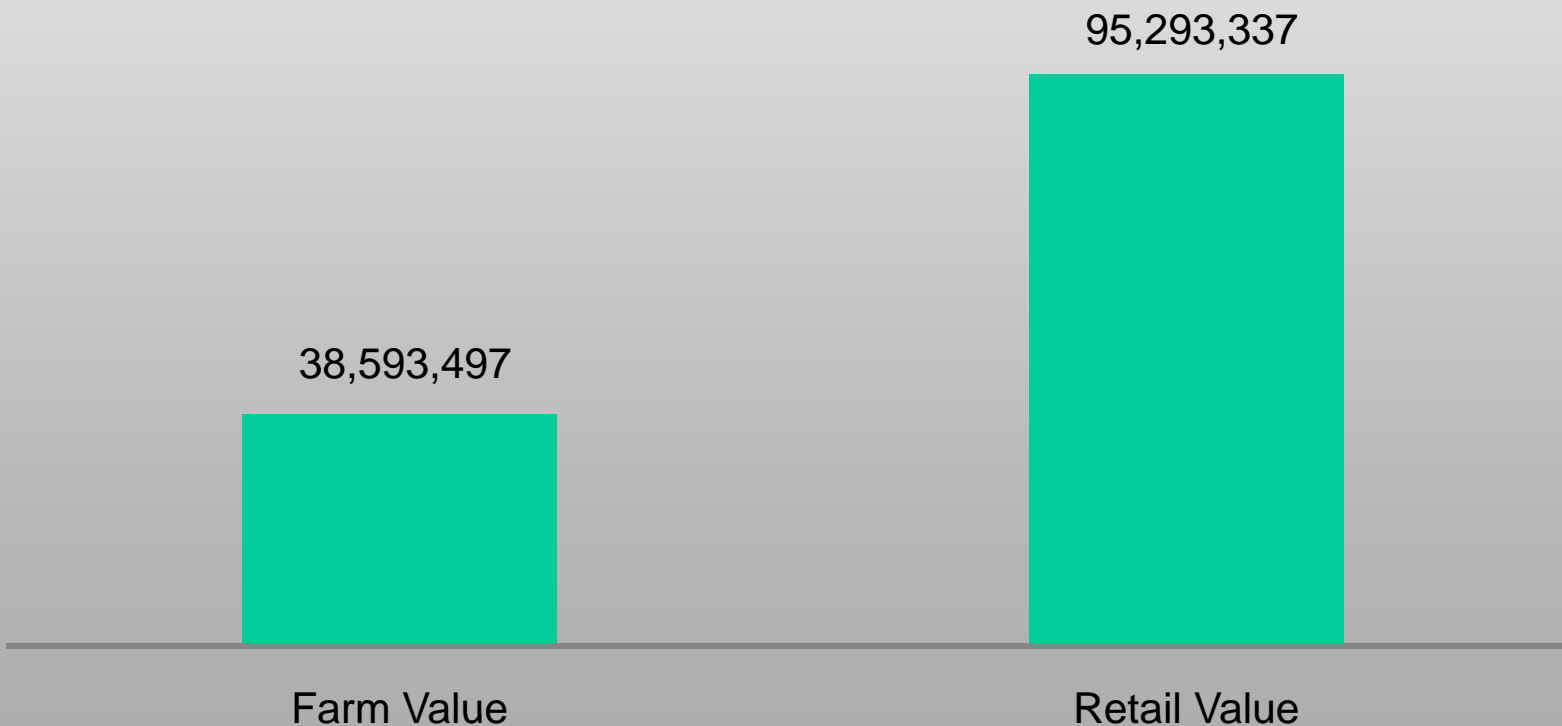
- Nuts
- Citrus Fruits
- Non-citrus Fruits
- Vegetable and Melon

Square Feet Per Capita

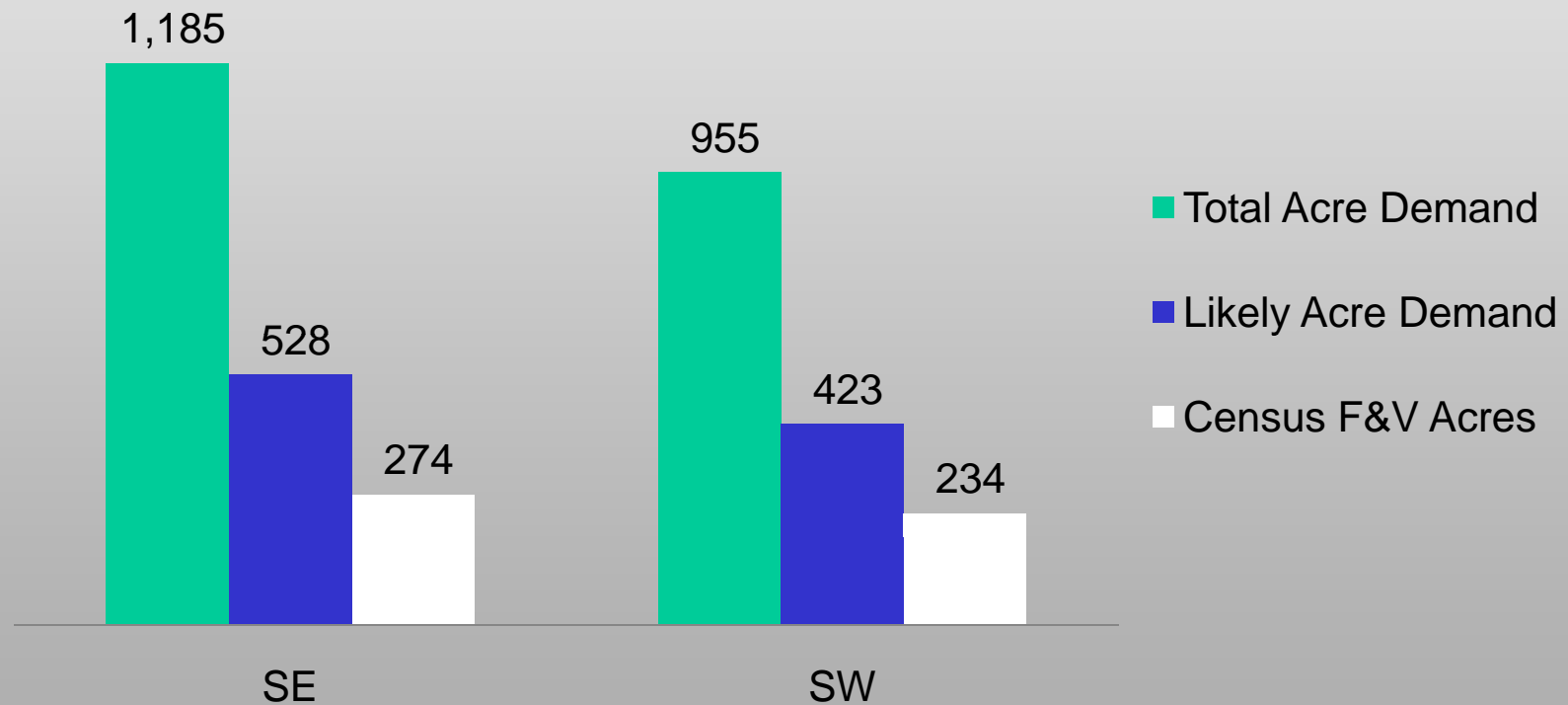
Crop acres needed to satisfy Iowa consumption



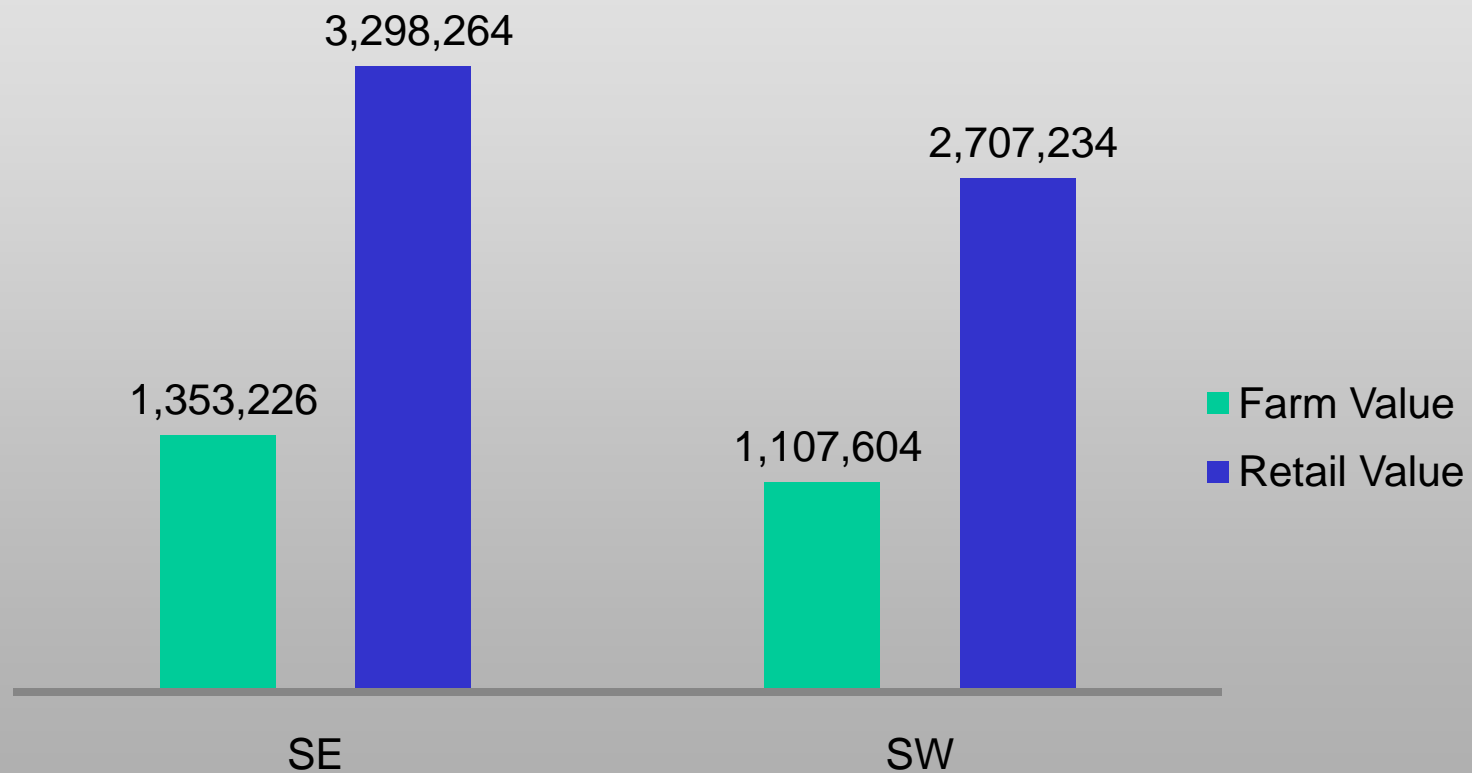
Statewide Revenue Potential



SW & SE Study Area Acres



Regional New Revenue Potential



Questions to ask and answer

1. **What is the local capacity to produce & what is the local and regional demand?**
2. **If that capacity has waned, why did it?**
3. **Moving beyond rhetoric – how much of the impetus of local foods encouragement is practical?**
4. **What are the impediments?**
5. **Where can it be more profitable?**
6. **What happens when the market kicks in?**
7. **Is this worthy of public underwriting?**
8. **Exactly what is so desirable about local foods production? Are we truly better off?**

Conclusion

- ✓ In the short run, regionally and statewide, there are modest and knowable gains to accumulate via local foods production
- ✓ We have to begin and end with actual, not made-up consumers
- ✓ In the long run, well, we're actually a victim of the long run and it has obliterated the local foods industry