Our Disappearing Farms
What is happening, why it matters, and what you can do about it.

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William B. Stokely Chair of Management,
Haslam College of Business,
University of Tennessee

7th Generation Farmer,
Lick Skillet Farm,
New Market TN
This is a Century Farm

100 Years of Continuous Agricultural Production

STATE OF TENNESSEE
DEPARTMENT OF AGRICULTURE
What Is Happening to Local Farms?
### Farming During Lick Skillet Farm’s First 100 Years

<table>
<thead>
<tr>
<th>Year</th>
<th>Farms Lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1919</td>
<td>280,000</td>
</tr>
<tr>
<td>2019</td>
<td>66,000</td>
</tr>
</tbody>
</table>

214,000 Farms Lost in 100 Years = almost 6 per day

Tennessee averaged losing 1 farm about every 4 hours... ...for 100 years.
Figure 9. Extent of threat to agricultural land and level of state policy response. States where policy actions are proportional to threats are shown in shades of green. States where the threat is higher than the policy response are shown in red and orange.

Alaska and Hawaii are not included because there is insufficient data to plot them in the spatial model.

TN Farms 2nd Most Endangered in the Nation
Why Local Farms Matter
TAKE THE 50% Pledge!

Spend at least 50% of your food dollars on direct purchases from local farmers and artisans; with the remainder of your food dollars, you can celebrate how small the world has become!

TAKE THE 50% Pledge!

LOCAL DIRECT PURCHASES:
- Raw Milk
- Raw Cheese
- Pork, Beef and Turkey
- Charcuterie and Organic Meats
- Chicken and Eggs
- Fruit and Vegetables
- Homemade Soups and Stews
- Homemade Desserts
- Savoury Bread
- Lacto-Fermented Condiments
- Fermented Vegetables
- Kombucha

CELEBRATE OUR SMALL WORLD:
- Rice
- Pineapple
- Mango and Papaya
- Bananas
- Nuts
- Pepper
- Unrefined Salt
- Spices
- Heritage Grains
- Wild Seafood
- Fruit and Vegetables
- Breads and Crackers

westonaprice.org
Statistics on Tennessee Agriculture

• 342,000 employed
• $3.5 billion in direct revenue
• $1 billion in global exports
• $81 billion in total economic impact
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Why Local Farms Matter to You

1. Food safety
2. Food security
3. Food quality
4. Animal welfare
5. Environmental impact
1. Food Safety

Modern medicine is too often an attempt to fix with science that which could have been prevented by common sense.
Industrial Ag Answer to “How Often Should I Vaccinate?”

- **Heifers?** The biggest thing, as far as reproductive and respiratory problems, is vaccinating your replacement heifers about three times with modified live vaccines before breeding. Vaccinate these females at 2 to 3 months of age, around weaning, and six to eight weeks before breeding.

- **Mature cows and bulls?** I like vaccinating the mature herd twice a year, because most of the vaccinations give you a good protection for only six months. So, vaccinate in the spring before turning them out to pasture and then again in the fall during pregnancy checks.

https://www.farmprogress.com/animal-health/build-an-optimal-cattle-vaccination-routine
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To Sell Cattle Into the Industrial Agriculture Food Chain as “Premium” Products...

1. Must follow a prescribed vaccination protocol:
   A. Vaccinated with 2 doses of a 5-way respiratory vaccine
   B. Vaccinated with 2 doses of at least a 7-way clostridial vaccine
   C. Vaccinated with 1 dose of Pasteurella

2. Cattle must be tagged with a trackable chip

3. Recommended:
   A. Feed concentrate supplement for a minimum of seven days after weaning to train cattle to eat from a bunk
   B. Provide a coccidiostat through the feed, water or mineral
   C. Dewormed (recommended at weaning)

4. All of this verified by a third-party (typically a government employee)
**BENEFITS:** The OQBN Vac-45 program **benefits the cattle industry** by providing healthier and heavier cattle. The **benefits to producers** include potential premium received for preconditioned calves, reduced cattle stress and shrink, an improved cattle immune system, **increased sale weight of cattle**, increased market demands, neutral-branding, and a third-party verification.
Minimum Set of Vaccinations to be Considered “Premium”

1. Infectious bovine rhinotracheitis (IBR)
2. Bovine Virus Diarrhea 1 and 2 (BVD)
3. Parainfluenza-3 virus (PI-3)
4. Bovine respiratory syncytial virus (BRSV)
5. Tetanus
6. Botulism
7. Blackleg
8. Bacillary Hemoglobinuria
9. Necrotic Hepatitis
10. Overeating Disease
11. Enterotoxaemia
12. Malignant Edema
13. Acute Cervical Hemorrhagic Edema
“Premium” Cattle Producers are Paid for Vaccinating

![Price/CWT of Various Treatments Graph](https://www.drovers.com/news/industry/value-added-premiums-50-head-data-show)
Let’s Talk About Antibiotics

Antibiotic consumption in major countries/regions

<table>
<thead>
<tr>
<th>Country/region</th>
<th>Year</th>
<th>Total (tons)</th>
<th>Human(%)</th>
<th>Animal(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>2013</td>
<td>162,000</td>
<td>48</td>
<td>52</td>
</tr>
<tr>
<td>USA</td>
<td>2011/2012</td>
<td>1,7900</td>
<td>18</td>
<td>82</td>
</tr>
<tr>
<td>EU</td>
<td>2012</td>
<td>11,382</td>
<td>30</td>
<td>70</td>
</tr>
</tbody>
</table>

https://www.springernature.com/gp/open-research/about/the-fundamentals-of-open-access-and-open-research
When the Cattle Arrive at the Feedlot...

1. Immediately give a broad spectrum, long-lasting antibiotic

2. Put on feed that contains antibiotics in every bite.
Feedlot Cattle Receive Antibiotics with Every Bite of Feed

- Cattle finished on grass alone typically have a rumen pH just under 7 or neutral.
- Feedlot cattle have lower pH. When the pH is less than 5.2, is called acute acidosis.
- The higher level of acids irritate the bowels, escape the digestive tract, enter the bloodstream, are captured by the liver where they cause abscesses and lower average daily gain by around 5%.
- Antibiotics are added to the feed to control liver abscesses in feedlot cattle.
In A World Afloat in Antibiotics, USA is a “Global Leader”

If you buy beef produced by Industrial Agriculture, chances are extremely high that it comes from animals treated with antibiotics.

<table>
<thead>
<tr>
<th>Route of administration</th>
<th>Small (50–999)</th>
<th>Large (1,000 or more)</th>
<th>All feedlots</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pct.</td>
<td>Std. error</td>
<td>Pct.</td>
</tr>
<tr>
<td>Feed—any medically important antimicrobial</td>
<td>53.8</td>
<td>(6.0)</td>
<td>77.8</td>
</tr>
<tr>
<td>Feed—only nonmedically important antimicrobials¹</td>
<td>15.6</td>
<td>(4.6)</td>
<td>9.3</td>
</tr>
<tr>
<td>Feed—any antimicrobial</td>
<td>69.5</td>
<td>(4.8)</td>
<td>87.1</td>
</tr>
<tr>
<td>Water²</td>
<td>9.1</td>
<td>(3.2)</td>
<td>1.1</td>
</tr>
<tr>
<td>Injection (group)²</td>
<td>12.8</td>
<td>(3.8)</td>
<td>39.3</td>
</tr>
<tr>
<td>Injection (individual)²</td>
<td>78.5</td>
<td>(4.9)</td>
<td>97.9</td>
</tr>
<tr>
<td>Any antimicrobials</td>
<td>86.6</td>
<td>(4.0)</td>
<td>99.5</td>
</tr>
</tbody>
</table>

¹Ionophores were the only antimicrobials used by feedlots in this report that are not considered medically important by the FDA.

²All antimicrobials used in water or by injection in this report are considered medically important by the FDA.

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Feedlot Cattle Receive Ionophore Antibiotics with Every Bite of Feed

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Money vs Safety in Industrial Ag

“The reasons for the tremendous adoption of this particular technology is the consistent return on investment. The net return on investment when ionophores are fed to cattle equates to approximately $20 per head (Elanco Animal Health, 2015).”
If this Isn’t helping consumers or producers, is it at least saving animals? NO!

What About MRNAs?

- **Should We Worry About MRNA In Livestock?**
- **WAPF NEWSLETTER, JULY 27, 2023 BY TOM COWAN**
- “Regardless of health concerns, consumers have the right to know if the meat they're purchasing comes from an animal that had received an mRNA-based vaccine just as they have the right to know if a cow was grass fed or a chicken raised cage-free.”
- “We all should try to obtain our meat and dairy products from small farmers who use no vaccines or chemicals of any sort. That is the only safe and reasonable way to obtain meat.”

2. Food Security
Your Beef Prices vs Producer’s Cattle Prices in First Weeks of COVID
3. Poor Quality
2. Quality

LSF

Local Competitor

Leading Organic

Factory Farm
4. Animal Welfare
5. Environmental Impact
Beef, Raised Right, is More of a Solution than a Problem
But don’t we need industrial agriculture to feed the world???
How Much **Food** do Industrial Farms Produce?

Only 10% of Corn and 6% of Soy are eaten as food by humans.
Industrial Farming has been a major contributor to the Dead Zone in the Gulf – now the size of Massachusetts.
One Billion Don’t Have Enough to Eat Under the Current System
70% of the World’s Population Gets its Food From Small Local Farms
Examples of regenerative practices

- Riparian plantings
- Slowing the flow
- Fencing off waterways
- Investing in revegetation
- Implementing time controlled planned grazing
- Stubble retention and biological breakdown
- Changing crop rotations
- Encouraging natural biological cycles and nutrient transfers
- Applying organic composts, fertilisers and bio amendments
- Integrating enterprises

SoilsForLife
UN: only small Farmers and Agroecology can feed the World
Why Are We Losing Our Local Farms?
it's the economy, stupid.
## Economics at Lick Skillet Farm

<table>
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<tr>
<th>Year</th>
<th>Land Price (1919 $)</th>
<th>Cattle Price (1919 $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1919</td>
<td>$50</td>
<td>8.7¢</td>
</tr>
<tr>
<td>2019</td>
<td></td>
<td></td>
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- Land price increased by 1,470% from 1919 to 2019.
- Cattle price increased by 1% from 1919 to 2019.
LAND OWNED BY BILL GATES BY STATE

268,984 TOTAL ACRES
242,000 ACRES OF FARMLAND
Concentration in Agriculture

Top 4 Companies’ Share

- Beef: 84%
- Hog: 66%
- Poultry: 59%
- Turkey: 55%
- Soybeans: 70%
- Corn: 80%
- All Seeds: 60%

40% Threshold
The Big 4 Packers in US Beef Industry

Tyson
Cargill
JBS
Marfrig
“Product of the USA”?
Where is your “grassfed” meal coming from?

Loophole allows livestock shipped from foreign countries to be labeled “American Grassfed”
#realgrassfed #knowyourfarmer
TELL YOUR SENATOR:
Support Mandatory Country of Origin Labeling!
How much does the farmer get of your food dollar?

7.8¢ for Farm Production
What Can You Do About It?
3 Key Steps to Saving Local Farms

1. Take the pledge
2. Find local farms
3. Carefully select “your” farmer
Take the Pledge!
How to Find Local Farms

1. WAPF
   A. Ask your WAPF Local Chapter
   B. Annual Shoppers Guide
   C. Advertisers

2. Good Meat Project (www.goodmeatproject.org)

3. Contact Your State Department of Agriculture
8 Questions You Should Ask Farmers

1. What use do you make of GMOs, antibiotics, vaccines, hormones, insecticides, herbicides, synthetic fertilizers?
2. Do you ever feed any grain to ruminants (cattle and sheep)?
3. What grains do you feed your monogastrics (pigs and poultry)?
4. At what age, weight, and level of finish are your cattle harvested?
5. How do you manage quality assurance of X (whatever product you buy)? What is your guarantee?
6. What policies and procedures do you use to ensure animal welfare?
7. What makes your farm a good place for your employees to work?
8. What are you doing to restore your environment to what it was before it was farmed?