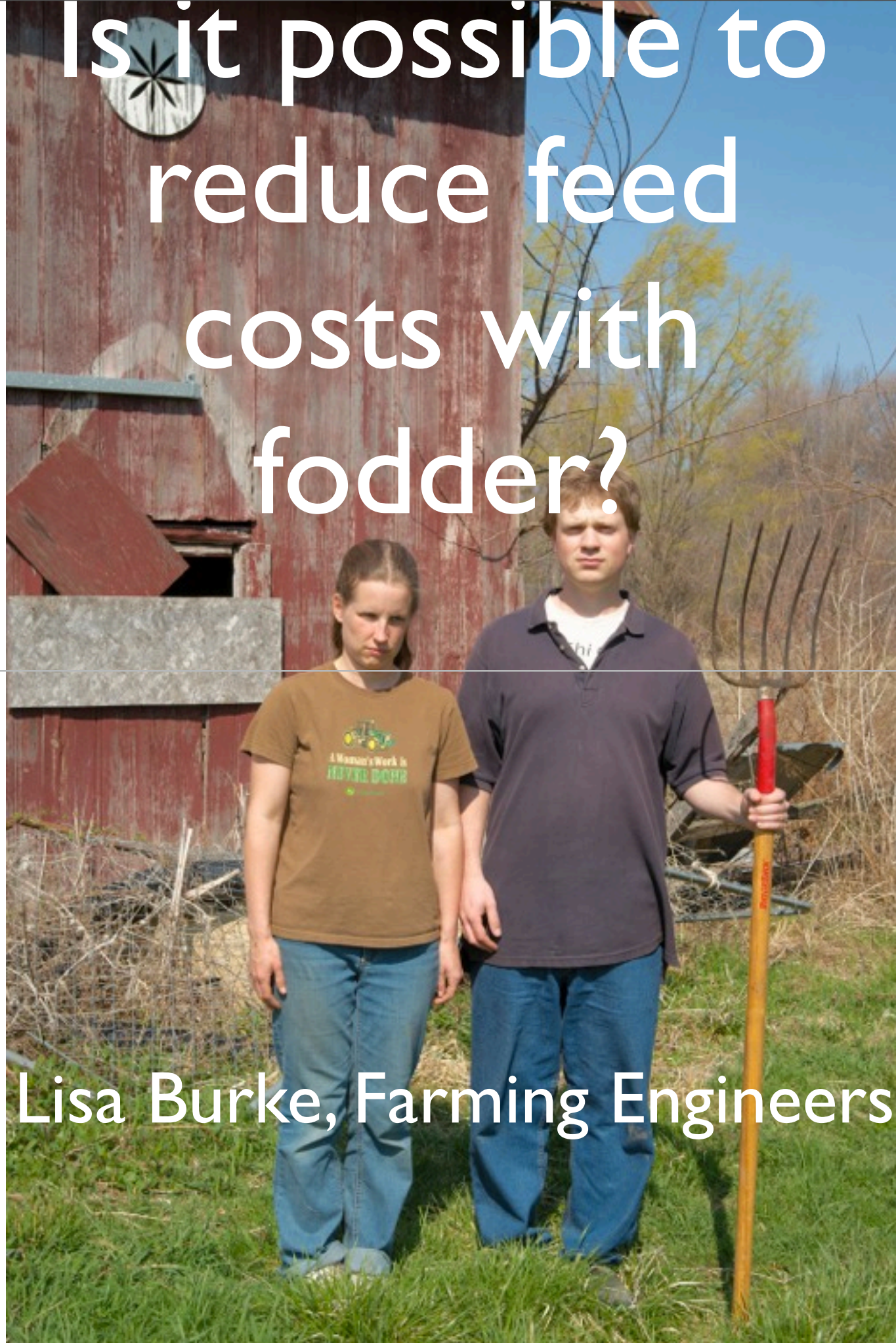


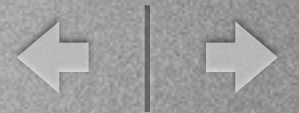


# Is it possible to reduce feed costs with fodder?

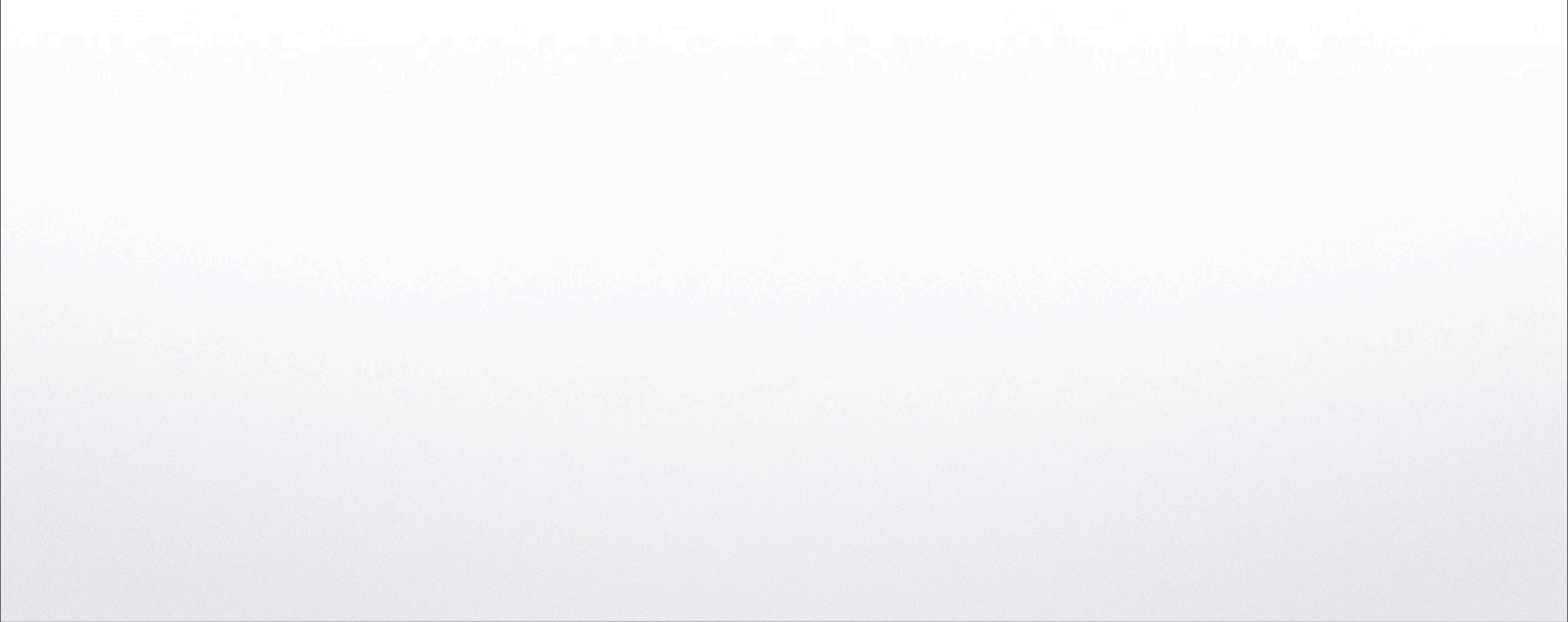
Lisa Burke, Farming Engineers







# Why fodder?



Sunday, March 29, 15

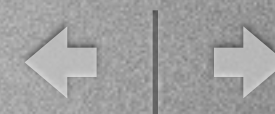
Heavily advertised  
“LOWER YOUR FEED COSTS UP TO 50% WITH FODDER”  
“Sprouted grain has more protein / nutrients / etc”  
Research / data wasn’t out there for poultry, only for ruminants.



# 2013-2014 SARE experiment

- Hydroponic Fodder in an Organic Pastured Poultry System: Can feed costs be reduced?





# Producing Fodder



Sunday, March 29, 15

Basics of growing your own

Homemade systems

Commercial systems

What to sprout?

Production environment





# Production Basics



Sunday, March 29, 15

You need: Space, Water, A tray that drains & somewhere to drain it, light, some temperature regulation.





Sunday, March 29, 15

Soak seed for 24 hours (some people bleach / sanitize during this step)

Drain and spread on tray





Sunday, March 29, 15

Note cotelydons after 1 - 2 days





Sunday, March 29, 15

Root system development after 2- 3 days

We stir the barley around bc watering tends to push them all to one end of the tray





Sunday, March 29, 15

Green shoots start developing 4 - 6 days





Sunday, March 29, 15  
They get greener





Sunday, March 29, 15

They start uncurling, 5 - 8 days



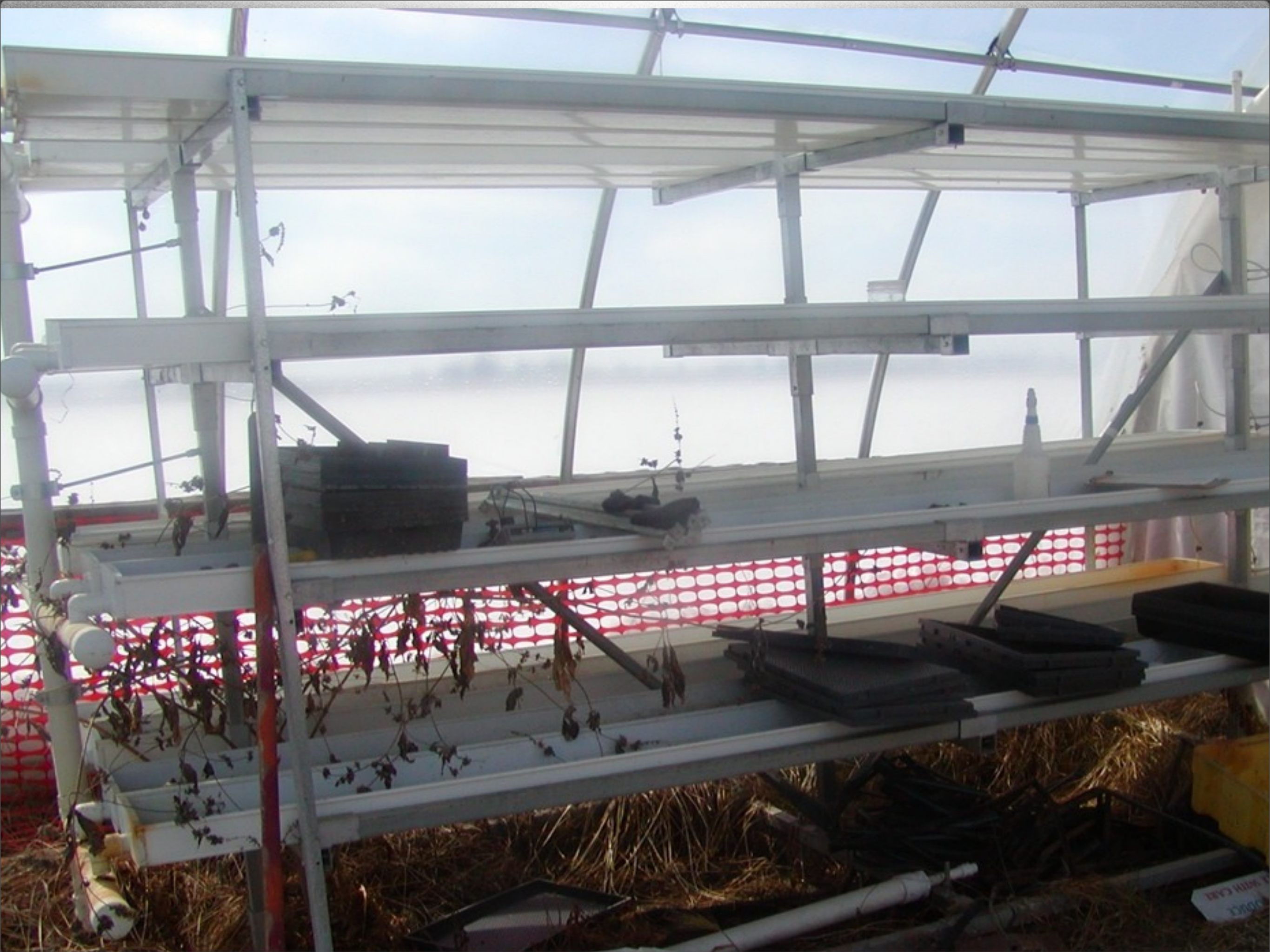


Sunday, March 29, 15

7 - 10 days they look like grass and are “fully sprouted”

They will last a while longer in the tray but the seeds can get more moldy and the root mat holds water and stinks more as it gets more dense.





Sunday, March 29, 15

We started with a homemade system, then upgraded to this.

Commercial fodder system: Small footprint, large volume.

"All inclusive"

("keeping it real" this is how it looks right now.)





Sunday, March 29, 15  
12 foot long trays, steel frame





Sunday, March 29, 15

Supply valves with individual shut offs (this brand is quirky and easy to break)

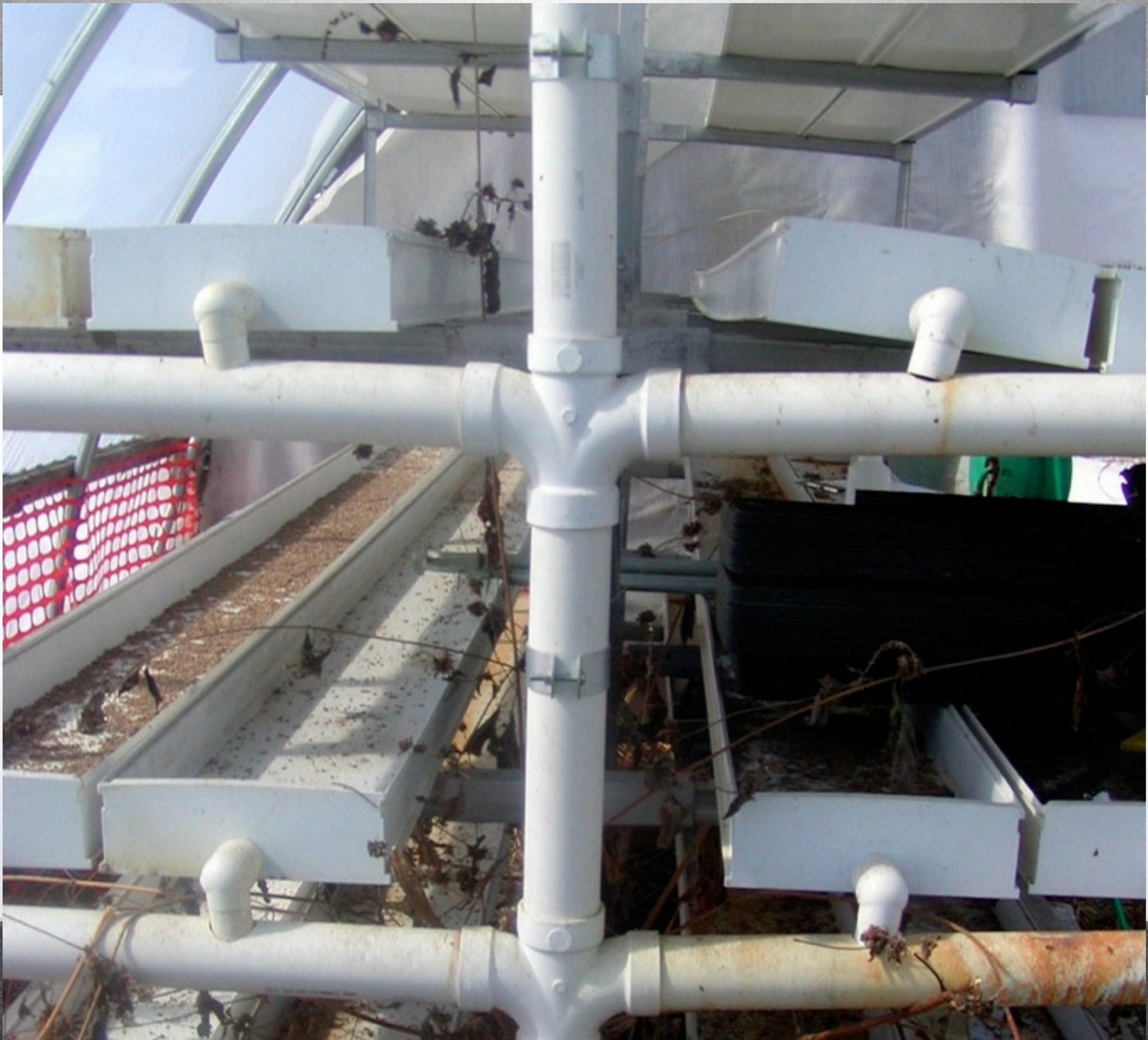




Sunday, March 29, 15

Individual drains, removable elbows





Sunday, March 29, 15

Drain Stack

Yes it leaks some. Bad if you are growing in your house.

Main drain goes outside of hoop house onto lawn

Challenges in high tunnel: Takes up growing space, too hot, freezes in winter, insects

Challenges indoors: Drainage, space, plumbing, THE SMELL.





# What to sprout?







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- Barley is commonly suggested





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# What to sprout?

- Barley is commonly suggested
- Wheat and oats are cheaper
- Peas are legumes
- Alfalfa & clover have tiny seed





Sunday, March 29, 15

How our laying flock lives, so you can gage how this might fit in with your system  
Covered wagons & poultry netting, March - November / Dec





Sunday, March 29, 15

Night view, you can see egg laying house, feeders, etc





Sunday, March 29, 15  
Separate egg house





Sunday, March 29, 15

Straw Bale Housing w/ outdoor access during the day during winter





Sunday, March 29, 15





Sunday, March 29, 15





Sunday, March 29, 15  
High tunnel in winter





# Layer Flock Results







# Layer Flock Results

- 2013 - 2 flocks of ~ 50 hens







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# Layer Flock Results

- 2013 - 2 flocks of ~ 50 hens
- Added fodder to one group
- Fodder group had cannibalism & lower egg production, worsening when we reduced bagged feed at all
- Predators ended the experiment early in 2013





# Layer Flock Results







# Layer Flock Results

- 2014 - Fox in the hen house, not enough hens for 2 groups







# Layer Flock Results

- 2014 - Fox in the hen house, not enough hens for 2 groups
- Later experiments with no control group = consistently lower egg production

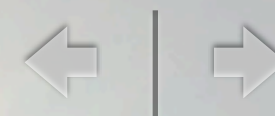




# Layer Flock Results

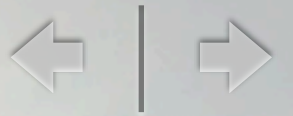
- 2014 - Fox in the hen house, not enough hens for 2 groups
- Later experiments with no control group = consistently lower egg production
- Grant project hopefully extended into 2015





# Layer Experiment





# Layer Experiment

- Adding fodder to the diet of already-pastured laying hens is likely not useful. It may be worth trying with confined hens.





Sunday, March 29, 15

Broiler experiment  
125 birds in each batch  
3 groups, each group has its own salatin-style pen  
1 pen gets fodder. Could also do 2





Sunday, March 29, 15

Having side by side groups seems especially important for broilers due to highly variable pasture conditions!  
We add the fodder when they move out of the brooder onto the pasture.





Sunday, March 29, 15

3 batches in 2013. First batch, homemade sprouter pre-grant-money, not enough fodder.  
2nd batch, broilers were kinda reluctant to eat fodder. All groups weighed the same at processing, bagged feed reduction slight.  
3rd batch, added peas to increase palatability. 7% less weight on 20% less bagged feed  
2014: Only one batch. Wheat, peas, oats mix. Fodder group weighed the same on 20% less bagged feed. We also started feeding fodder a week later, right when the “greatest weight gain” started.





# Conclusions





# Conclusions

- Fodder: Try it with your broilers.





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- Sprinkle bagged feed on top of the fodder to get the broilers to eat it





# Conclusions

- Fodder: Try it with your broilers.
- Sprinkle bagged feed on top of the fodder to get the broilers to eat it
- On our farm, the time to produce the fodder probably cancels out the feed savings, but with a bigger flock it could be worthwhile.