The Robot in the Garden

Bringing gardening and agriculture back to people

Nikolaus Correll, University of Colorado at Boulder
Ok, we had lots of fun, but...

- How does this fit into the history of agriculture?
- What are the problems of the current agricultural system, if any?
- What could be done to improve?
- How could robots possibly help?
Burial chamber of Sennedjem. Plowing farmer. 1200 BC.
Mechanization

Grant Wood, American Gothic, 1930
Power Farming, Texas, 1938
Kansas, 2001

1950: 15.5 to 1
1990: 100 to 1
1997: 140 to 1

http://www.csrees.usda.gov/qlinks/extension.html
Centralization
Any problems with that?

- Looks all pretty efficient and neat, what’s wrong?
“Our agriculture sector actually is contributing more greenhouse gases than our transportation sector and in the mean time, it's creating monocultures that are vulnerable to national security threats, are now vulnerable to sky-high food prices or crashes in food prices, huge swings in commodity prices, and are partly responsible for the explosion in our healthcare costs because they're contributing to type 2 diabetes, stroke and heart disease, obesity, all the things that are driving our huge explosion in healthcare costs.”

President Barack Obama, 2008
From mono- to poly-cultures

Clover: Nitrogen fixation

Crow garlic: mask scents

Queen Anne Lace: attracts predatory insects
Sustainable agriculture, but at what cost?

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Power Farming, Texas, 1938
Kansas, 2001
Boulder, 2010

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Sustainable agriculture, but at what cost?

Grant Wood, American Gothic, 1930
Power Farming, Texas, 1938
Kansas, 2001
Boulder, 2020

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2020: ? to 1
Outlook: Permacultures