

Farmers as Feedstock Producers: Context, Opportunities, Challenges

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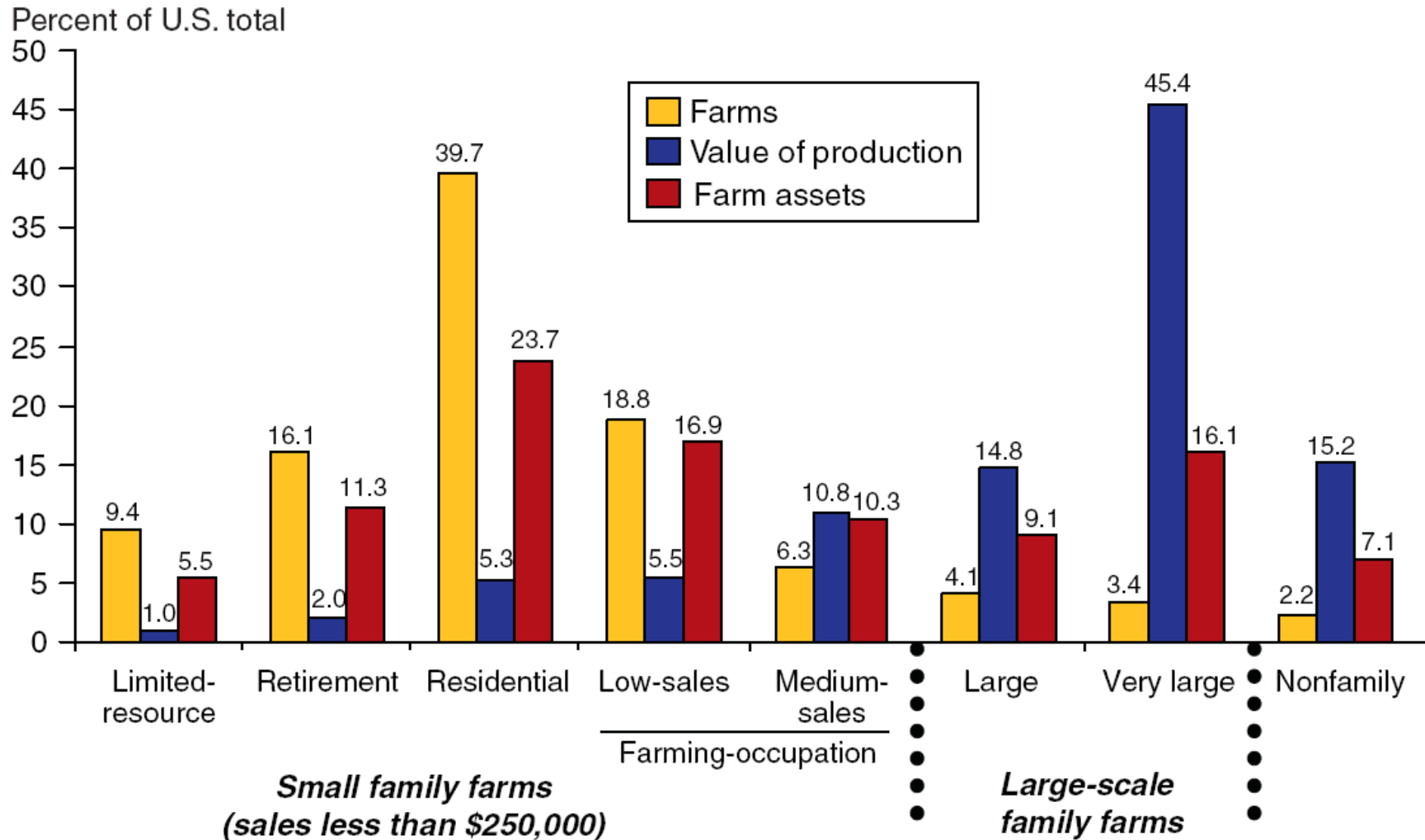
Farmer => Feedstock Producer?

- Feedstock: Raw material input for an industrial production process
- Farming:
 - Business, yes
 - But also “way of life”
 - History, sentiment, tradition
 - Continually evolving relationship between humans and landscape

Agrarian Transitions

- Dramatic restructuring since WWII
- Falling numbers of farms
- Increased average acreage per farm
- Bi-modal structure:
 - Small family farms = 90 percent total number
 - Large scale family farms = 60 percent total value of production
- Regional variation in structure and commodity emphasis across U.S.

Distribution of farms, value of production, and farm assets, 2004



Source: USDA-Economic Research Service.

Why Corn Farmers Make Good Bioenergy Feedstock Producers

- Corn now premiere bulk undifferentiated commodity, where quantity matters most
- Most of production already goes to agro-industrial uses (livestock feed; corn syrup)
- Settled and effective harvesting and handling technologies
- Farmers have necessary equipment & infrastructure and LOVE them
- Cushion of commodity payments



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GOLD RUSH 2007

John Darkow/Columbia (Mo.) Daily Tribune

The Context of Corn Ethanol

- Swelling volume of production
- Flurry of corn ethanol plant construction
- Price of corn rising to > \$4/bu
- Some alarm bells
 - Food and livestock industries caution about rising price of food
 - Environmentalists warn of eco-disaster in extensive, continuous corn cultivation



Cellulosics!

New feedstocks are the wildcard!

What do we know about farmers' motivations and interests in producing perennial feedstocks for the emerging bioeconomy?

Will they be different?



Our Research Approach

- Find farmers who are playing the “wild card”-- harvesting switchgrass for energy
- Chariton Valley Biomass Project- southern Iowa
- Ethnographic fieldwork summer 2006, included extended, open-ended interviews with 25 switchgrass farmers about practices, decisions, concerns
- [Now beginning comparative study of Pennsylvania non-industrial private forest landowners, whose holdings are near site of recently announced ethanol plant in Clearfield]

Who Grows Switchgrass?

CVBP farmers we interviewed:

- Primarily male
- Older (most in 60s)
- Educated (some college)
- Most also had off-farm work or income
- Average holding of ~680 acres
- In addition to switchgrass for energy, had pasture, sometimes some row crops

Farmers as Conservationists

- Self-identify as “practical,” “pragmatic” or “realistic” environmentalists and conservationists.
- Mention observing reduced soil erosion, improved water quality, and wildlife habitat observed with switchgrass.
- “When the wind is blowing and that stuff is 6 feet tall, it’s just waves. It’s just like a green ocean. It’s beautiful and there is all sorts of wildlife out there living in it.”



Role of Conservation Reserve Program (CRP)

- Many count on CRP payments.
- Special waiver allowing CVBP to harvest switchgrass off CRP land was decisive.
- Welcome a move to more market-driven arrangements, *as long as* their switchgrass income will reliably equal or exceed current income from CRP.

Economic Visions...and Realities

- See potential for locally-integrated bioeconomy premised on diversity
- Would like small, dispersed processing facilities, many small-to-medium scale farms growing diverse feedstocks
- Stress barriers posed by economies of scale and reluctance and/or inability of farmers themselves to press for desired models



Farms and Farmers as Foundational... Yet Peripheral

- Note R&D emphasis on bio-processing and refining more than on-farm production, harvesting and value-added
- Creates space for corporate innovators and investors
- Welcome their knowledge and money
- Worry about replicating past (extractive) patterns of oil and agribusiness industries
- Anticipate little influence or control by farmers in shaping agricultural bioeconomy



Ambivalence about Government

- Wary of regulation
- But see government role in providing incentives to develop bioenergy production
- Favor a CRP-variant program, e.g., an Energy Crop Reserve Program



Contradictory Readings By Current Switchgrass Farmers

- *Hope*... that new bioenergy crops can do environmental good and provide economic boost for farms and communities... AND ALSO
- *Skepticism*... that producers and producing regions will retain influence and control or reap long-term gains from bioenergy crops

Some Working Conclusions

- In short term, perennial feedstocks most likely to be produced by farmers not driven solely by production or economic concerns.
- “Fueling the world” motivates, but not at expense of environmental and aesthetic values surrounding landscape.
- Open to corporate role, but past patterns of development raise concerns about longer term local and community impacts.

~Thank you!~



Photo: Roger Maddux