

Sustaining Farming on the Urban Fringe



Monthly Highlight from New Jersey Agricultural Experiment Station

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First Generation Farmer of the Future? 7,500 acres Conventional & Organic Grain by Cell Phone

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In Ontario Canada last month, we met an 8,250-acre mixed conventional & organic cash grain farmer whose experience goes to the very heart of ag entrepreneurship. He's a new 1st generation farmer who started with nothing. No farmland inheritance, no grubstake, no equity capital. Nothing other than hard work, training in ag economics, a farming passion, farm labor work, and experience in a farming management business. An operation of this scale one does not do alone. His family—wife and two daughters—are behind him. His wife is a trained agronomist.

He grows both GM and non-GM crops on conventional acres. He has no philosophical problem growing GM crops, and supports them. He has no problem growing organic crops. One is not better than the other. One is a choice of efficiency and markets, the other a personal decision about how he and his family choose to live and manage their own land.

Conventional Acres: Rental Relationships

He farms 7,500 conventional acres of GM and non-GM corn, soybean, wheat, oilseed canola, and white bean in rotation. All farmed on rented land using custom contract services. He's farming these 7,500 acres all from his cell phone, with established relationships among crop services companies. He contracts everything: conservation tillage, seeding, spraying, combining, and hauling operations. None of the equipment is his, except the pickup truck. Imagine running a farm of this scale from your cell phone?

Organic Acres: Weed Tillage & White Threads

His home farm is 750 acres, 650 owned and 100 rented, all organic. The 650 acres were purchased in the last dozen years with conventional custom farming income. On the home farm, he and his wife want to farm and live organically. Not only organic, they want to become a “self-contained sustainable farm” with regard to nutrient inputs. They grow certified soybean, corn, wheat, ancient grains like spelt, and others in rotation.



At home, he uses his own equipment. Since equipment doesn't move between conventional and organic fields, the time-consuming cleanout procedures, product segregation, and certification recordkeeping accompanying mixed operations are eliminated. Three-step weed management *is the core* of his organic crop management:

1. He learned he must moldboard plow organic fields at least once every three years to suppress perennial weeds. Conventional farmers adopt

conservation minimum-till or no-till practices with herbicides and regular or GM varieties to avoid exposing their soils to a plow. There is no foolproof organic alternative to periodic plowing soil for perennial weed suppression. He minimizes uncovered ground.

2. Within three days of seeding, before emergence, he runs a tine weeder. He likens tine weeding to his “pre-emergence herbicide application” while weed seedlings remain “white threads” at or below the soil surface. To be effective, cultivation must be timed—sometimes within a 1-day window—as young weeds emerge. Losing the window from weather or other tasks may mean losing a crop.
3. Later, he runs row cultivators, which he functionally equates to his “post-emergence herbicide application.”



White thread weed seedling not yet emerged

Earning a Profit?

His cultivators cover about 2 acres per hour. Each mechanical tillage pass uses about 375 hours; 750 hours labor plus fuel for the two cultivations. Even with these practices, “*You just have to tolerate more weeds in organic fields,*” he says. A 40-hour workweek, 50 weeks a year, is 2,000 hours. Therefore, cultivation demands 1/3 of a year’s labor hours, squeezed into two months.

He shared with us income and expense summaries, excluding only land rent and mortgage costs. Both systems are profitable in the strong global 2012 markets. The organic acres are returning near double the gross profit after expenses; approximately \$380 per acre versus \$190 for conventional production, excluding factoring in land rent or mortgage costs.

Farmer-to-Farmer Discussion

His biggest challenge in conventional production is retaining his rental land base. With strong global grain markets, farmers are competing for rental cropland to

expand. His biggest challenge in organic production is weeds, maintaining fertility, and...weeds.

A farmer suggested he “Just let the weeds go. Then harvest late, after weeds burndown from winterkill freezing, so the combine avoids co-harvesting ‘foreign matter’ seed contamination.” Another producer commented this simply invites worse “weed seed banks” to be combated in future seasons.

Organic practices don’t offer reliable solutions for the tension between weeds, the undesirable soil disturbance from tillage required suppressing them (along with fuel consumption), and farmers’ soil building goals. Multi-year organic fallowing would require farmers to expose millions of additional cropland acres to crop rotation tillage, increasing soil and water erosion. Thus, the soil disturbance and fuel consumed in organic grain farming are—functionally and environmentally—equivalent to burndown herbicides and GM crops.

An older farmer listening to this exchange has adopted GM crops on his farm so he could use conservation tillage practices and the flexible herbicide timing around weather that they afford. He noted that using GM crops with no-till or vertical tillage and herbicides are better for soil health, better for water quality, better for the environment, and decrease fuel compared with 750 hours of tractor time.

He said, “*We’ve almost put the plow away to bed in Canada. The extra fuel used in organic farming is bad for the planet compared to small amounts of herbicide. Don’t people out there understand?*”

Gotta Serve Somebody

By conventional farming 7,500 acres we create freedom to farm 750 acres organic, satisfying global markets and personal values. We *depend* on conventional so we can *elect* organic, and a 10-to-1 ratio seems about right.

This nonjudgmental approach of satisfying demand conventionally, to help build equity and satisfy personal values organically, one equal with the other, reminded a farmer of the refrain from Bob Dylan’s 1979 song, *Gotta Serve Somebody*:

***“But you're gonna have to serve somebody
You're gonna have to serve somebody
It may be the devil, it may be the Lord
But you're gonna have to serve somebody”***