

Creative cultivation

Whatcom County farmers adapt to the changing landscape of agriculture



BBJ photo/Vincent Aiosa

Roger Boxx, standing, and brother Mike, in the tractor, owners of Boxx Berry Farm, have cashed in on crop diversification as a way to hedge their bets in the volatile farming industry.

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The first thing you notice when meeting a farmer is their handshake.

Some are leathery and dirt-caked, others are flakey with dust.

Just one grip can radiate a sense of hardened determination and down-to-the-bone weariness, but also an intimation of optimism.

For many Whatcom County farmers, the sweat and stress of working in such a volatile business has its rewards — a good season, a profit, and a literally deep-rooted connection to the county's land and community.

But it's far from easy. Whether it's the risk associated with single-crop or single-market farming, the average age of farm owners, or the loss of farmland to a county burgeoning with

development, the challenges plaguing farms across the United States also apply to Whatcom County.

A condensed history of the county's agriculture shows it has boasted grains and hops, strawberries and poultry in its day, but dairy has historically prevailed as its stronghold.

Strawberries debuted in the '20s and '30s on land the dairymen didn't want, and persisted until the California strawberry industry unfurled its massive, price-competitive industry onto the market.

Local farmers adjusted by starting to grow raspberries in the '70s and '80s — now the county's biggest crop — and lately blueberries have been gaining traction as another successful option. But the cows continue to come home as the county's biggest agricultural stars in terms of market value.

More recently, raspberry farmers were hit with an especially hot day in early July this year that destroyed about 20 percent of the season's harvest, followed by a week of rain that harmed further production. While prices for raspberries were better than last year, the season was disappointing. However, raspberry farmers who have diversified by harvesting blueberries, as well, mitigated some of those losses.

Whatcom County currently represents the largest agricultural economy in Western Washington, ranking sixth in agricultural production in the state with almost \$300 million in market value, according to the 2002 Census of Agriculture (the next one comes out in fall 2008). Despite the numbers, some seem to have the impression that Whatcom County agriculture is on its way out.

But Henry Bierlink thinks those naysayers are wrong.

Bierlink is the director for public policy at Whatcom County Farm Friends — formerly the Whatcom County Agriculture Preservation Committee — and he believes in the ability of local farmers to adjust to challenges in the industry.

"(Whatcom County agriculture) has always been dynamic. It changes to meet the current times and changing conditions," he said. "I hear from some people that say it is dying.

"It is different," he said. "Some are struggling, and some are doing very well."

The stories on the following six pages illuminate how Whatcom County farmers and industry professionals, as well as local governments, are adjusting to these challenges with innovative practices and policies to keep farms viable, and how most of them are reaping rewards from their efforts.

Diversification

When the price of raspberries plummeted in the early '80s, the Boxx family decided it was time to get off the single-crop roller coaster ride.

Boxx Berry Farm had mainly produced raspberries and some strawberries for processors since Roger Boxx's parents started the farm on Northwest Road in the early '60s. Seasons' profits fluctuated heavily depending on the weather and the price processors offered for the berries, which hinged on basic supply-and-demand principles as well as whether the processors could purchase mass quantities of berries from large international producers for a cheaper price.

Most of Whatcom County's berry farmers still sell to large processors, such as Smuckers and Ocean Spray that use the berries in jams or juices, but about a third of the roughly 100 growers have supplemented their revenue streams by adding blueberries and some strawberries, Bierlink said. The trend toward berry diversification began about 10 years ago

and has intensified recently. Bierlink said diversification can help farmers mitigate bad weather and bad prices by adding a supplemental source of revenue. Boxx Berry Farm has taken this trend a step further.

The farm now grows a diverse range of crops, including berries, carrots, potatoes, flowers, onions, garlic, green beans, corn and cucumbers, and sells them directly to consumers from its farm stand and to retailers like Joe's Garden and Haggen. The farm stand also sells apricots, cherries, nectarines and peaches from Eastern Washington.

"Now it's a lot more stable," Boxx said.

At about 105 acres, Boxx Berry is one of the largest farms in Whatcom County to diversify its crops and markets, but a number of farmers are catching onto the trend, which essentially allows them to hedge their bets in a business that can be frequently unpredictable.

While Whatcom County agriculture is also experiencing a trend in consolidation into large farms, the growth in new market opportunities is creating an increase in smaller diversified farms, said Paul Grey, executive director for Farm Friends. Many large commodity berry and dairy farms have dealt with limited or no control over prices by joining co-ops, such as the Darigold milk co-op or the Northwest Berry Co-op. Both Bierlink and Grey noted several examples of smaller local farms diversifying, as well. For example, some dairy farmers are also growing raspberries or corn on their land, or adding a composting or energy production business (see sidebar on Vander Haak Dairy).

Farms with either single crops or single-revenue streams can be vulnerable to a variety of factors that can lead to losses during a poor season.

"If you have all your eggs in one basket, and that basket crumbles, it can be devastating," said Shonie Schlotzhauer, Sustainable Connections Food and Farming Program manager.

In addition to price fluctuations for commodity crops, monoculture operations are vulnerable to weather fluctuations and pests that can destroy harvests, as well as soil depletion from continual use of a land area for one crop, Schlotzhauer said.

Diversifying crops and markets can offer supplemental revenue streams to offset failure due to any one of those factors, and enterprise diversification is the first on a list of risk management strategies offered by the USDA. Farmers can diversify either the products or their markets, and oftentimes do both.

Production diversification can range from adding one to several other crops, like Boxx Berry Farm has done, or by adding a new revenue source or product. For example, a dairy farmer could produce cheese in addition to milk, so even if the price of fluid milk changes or grows slowly, the price of cheese may supplement the farm's profits, Schlotzhauer said.

Market diversification includes finding new markets for those products. For example, if a major retailer stopped purchasing local products because of a closure or a bankruptcy filing, it could be devastating to a farmer who sold only to that company, Schlotzhauer said. But if that farmer also sold to farmers markets, other retail outlets or through a community supported agriculture program, losing that source of income would have been less debilitating, she said.

While more stable, diversification has by no means meant a break in the work routine for Boxx. He hasn't had a day off since June, and his days from spring to fall start at 4:30 a.m. and end at 10 p.m.

A breezy carousel ride his life is not. But getting off the roller coaster wagon has made the journey at least more predictable.



Roslyn McNichol is not your typical farmer. As a 23-year-old female farmer, she's bucking the trend in more ways than just her age and gender — she's also exploring diverse markets and community-supported agriculture programs.

An aging field

Roslyn McNichol has the typical dusty handshake and ruddy glow of a farmer, but she lacks the usual stats.

In Whatcom County, 88 percent of farm operators are male, and the average age of a Whatcom County farm operator is 53.4 years old. As a 23-year-old woman, McNichol is not your run-of-the-mill farmer.

Perched on two stacked black plastic bins in the dimness of her Everson barn, where ropes of potent garlic heads drape from the ceiling in six long rows, McNichol described her ability to enter into the farming business as a result of a blend of factors — experience gleaned from a seasoned farmer, access to affordable land, and a youthful enthusiasm for trying new markets and products.

Having no real farming experience, McNichol got a summer job between school years at Fairhaven College as a farm hand in 2002 at Broadleaf Farms in Everson, where owner Dusty Williams came to act as her unofficial mentor. She realized during those summers that her enthusiasm for trying new things — community-supported agriculture (CSA) programs, marketing and experimenting with different sales outlets — superseded her mentor's energy level.

Williams encouraged her to lease a few acres of his land for an affordable price to apply her ideas to her own crops. She acquiesced, and in her first season is selling a variety of crops from her leased acreage, called Rabbit Fields Farm, to the Community Food Co-op, Terra Organica and through a CSA.

She is a rare breed in a field of aging operators, but a species of farmer that is beginning to buck the aging trend, which has been on the rise nationally since the mid-20th Century.

According to the USDA, the average age of all principal farm operators in the U.S. in 2002 was 55.3 years old. The average age of farmers in the U.S. has been older than 50 since at least the 1974 Census of Agriculture, and has increased in each census since 1978. On the flip side, the percentage of principal operators with average ages of less than 35 years has declined since 1982, and was only 5.8 percent in 2002.

According to the USDA, farmers are also older, on average, than others in the civilian work force.

The USDA suggests several factors for the aging trend. First, the average life span has increased in the U.S. overall. Farmers are retiring later as an increasing reliability on machinery eases their workloads. Also, the traditional pool of entrants into the business — white, male 20-something children of farmers — has sloughed off with the corresponding decline of farms overall and the fact that farm families have fewer children than in the past.

Additionally, entering the farming trade has become more difficult because of the financial capital and experience needed to get into and succeed in agriculture, local experts say.

Younger people, including farmers' children, tend to opt for attractive higher-wage jobs, especially when the economy is doing well, instead of the back-breaking work and unpredictably fluctuating incomes associated with farming.

"You work very hard, you have very long hours, it's risky and easy to lose your shirt," Schlotzhauer said, "And there's not much money in it. It's not glamorous."

Another factor is the increasing consolidation of farms, which results in fewer, larger operations. While the number of farms declined 12 percent in Whatcom County from 1997 to 2002, the average size of farms increased by 47 percent during that same time, according to the 2002 census.

"Consolidation means there is less opportunity to be the farmer," Grey said. However, at the same time, businesses supporting the farm industry, like vets and nutrition specialists, are growing, he said. But consolidation still means less new blood in the business, especially when the financial hurdles are as numerous as the amount of grains in a sack of wheat.

There's the increasing cost of production. For example, as fuel costs rise, so do freight costs. Corn prices have risen with the demand for ethanol production. Both drive up the price of feed stalk for dairy farmers, said Bierlink and Grey. Health care and labor costs are also on the rise.

The increasing cost of land is another substantial barrier to younger folks getting into the game or for farmers wanting to expand their holdings. Bierlink said the cost of agricultural acreage in Whatcom County has increased from about \$3,000 per acre to about \$10,000 per acre in the last 10 years.

Both Bierlink and Grey are addressing the problem of land costs through Farm Friends, along with several other organizations and municipalities, by encouraging the purchase of development rights on agricultural land (see following story), which lowers its value and therefore is more accessible to farmers.

They also encourage succession planning, so as farmers retire they have an arrangement to hand over the reins instead of selling or developing the land.

Both have noticed that despite the trend toward consolidation, many smaller, diversified farms are cropping up as a new generation of young people begin to farm, although not all are successful.

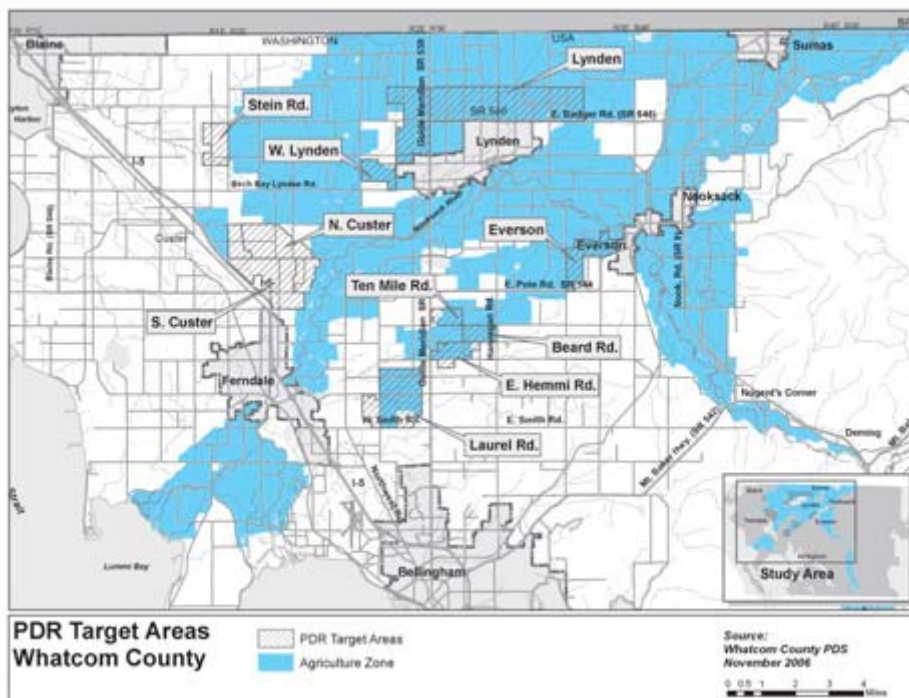
Schlotzhauer said the younger crowd tends to be excited by exploring new markets and having relationships with their customers. They are starting CSAs, selling directly to consumers through farmers markets and stands, or retailing directly to produce outlets.

Sustainable Connections Food and Farming Program has attracted many of these younger, diversified farmers. The program promotes local farmers and organizes trade meetings and tours between local food buyers and producers. Its fait accompli has been to operate the Food To Bank On mentorship program for new, sustainable farmers, who work with seasoned operators for three years and are paid wholesale prices to grow fresh produce for food banks.

For her part, McNichol thinks her enthusiasm and work ethic (she works seven days a week, nine- to 14-hour days, even while going to school in the spring and fall) are benefits to being young in an aging industry.

While padding through her rows of kale, chard, fennel, cabbage and cauliflower, her petite frame clad in faded brown Carhart overalls and jumbo work boots, she appears determined to make her venture successful.

When asked if she expects to make a profit this season, she replies, "Definitely." And then a few beats later, "Hopefully definitely."



But most local agriculture experts scoff at that increase, saying the numbers are misleading and that there hasn't been a real increase in agricultural land during that time.

"I can't see how there's been an increase," said Whatcom County senior planner Kraig Olason. "But it's hard to say if there has been a decline."

Craig MacConnell, director of the Washington State University Extension in Whatcom County, has studied the census figures and said the farm acreage showed an increase in the census due to a change in methodology. He said that an adjustment to the 1997 number of farm acres skewed the amount of increase when compared to the 2002 numbers. In actuality, MacConnell said, the number of acres of land in farms has decreased since 1997.

However, Linda Simpson, an agriculture statistician for the USDA's Olympia office, which gathers data for the census, said she thought the 30 percent increase in farm acres reflected an increase in small farms that qualified as agricultural land in the 2002 census.

"There was not an appreciable change in the definitions," she said.

Regardless of the debate, most agree that farmland in Whatcom County is undeniably at serious risk for losing acreage to development. Between January 2002 and January 2007, approximately 610 single-family residences have gone through the permitting process in agricultural-zoned land and rural-zoned land considered agriculturally significant, according to Mike Pelela, a GIS specialist for the county's planning department.

While protecting farmland is frequently used in local rhetoric opposing urban growth area expansion, both Olason and Bierlink say subdivisions in the heart of the county's agricultural areas pose the greater threat to farmland loss.

The acreage most vulnerable to development is rural-zoned land used for agricultural purposes. While land zoned for agriculture limits lot sizes to 40 acres, some rural-zoned land, known as rural 5 and 10, allows five- and 10-acre lot sizes.

"That is the most vulnerable land, because as long as it can support development, it is perfectly within an owner's right to file for a subdivision," Olason said.

The subdivision threat has intensified in Whatcom County as the market for rural land has grown. Many buyers like the idea of living in pastoral, bucolic areas, despite the reality of loud farming noises and smells, Olason said.

If a farmer is retiring and the farm is not succeeded by another farmer, subdividing and developing the land can make a lot of economic sense, while at the same time prices for that land have increased so much in the last 10 years that new farmers have difficulty affording it for agriculture purposes.

"Ag land is in hot demand from both farmers and developers," Bierlink said.

Subdivisions create fragmented farms, a process also known as checkerboarding, which makes it hard for farmers to consolidate or expand farmland, Grey and Bierlink said.

Faced with this challenge, the county has developed several programs to try to preserve 100,000 acres of agriculture land in the county. Currently, about 88,000 acres are either zoned for agricultural use or are designated as significant agriculture land by the county, but that does not mean they are necessarily protected from development.

Whatcom County's purchase of development rights (PDR) program is one of the major efforts by the county to preserve farmland. Initiated in 2001 by the County Council, the program uses funding from the USDA and the county's Conservation Futures Fund to purchase development

rights from farmers. This means the county pays agricultural landowners to extinguish their rights to develop the land and to abide by a covenant keeping the land in perpetual agricultural use.

Since the program began purchasing development rights, the county has preserved 368 acres of farmland in five separate properties, equaling 66 potential development rights, Olason said. Since 2002, the price to purchase development rights has doubled, and the amount of acreage preserved is far short of the end goal, but the program is ongoing and is about to start a new round of purchasing, Olason said.

Keeping land in agricultural use is a benefit to the county economically, with an estimated \$600 million in economic activity per year when taking into account a multiplier effect, according to the county's February 2006 review of the PDR program. Further, farms require fewer services, such as schools and fire protection, and they have less traffic impact than residential development, Olason said.

Farm Friends is interested in making potential subdivision homeowners aware of the realities of living in an area surrounded by farmland — early-morning or late-evening noise and bad smells can provoke homeowners to file complaints, which is a nuisance for farmers even if they are ultimately deemed in the right, Grey said.

The consensus seems to be that while the PDR and other county programs to preserve agriculture are making only moderate gains, their work is a necessary starting point.

"Once agricultural land is lost, it's hardly ever recovered because if you put a large home on it and landscape it, and it has that much more value, no farmer will take over and plow it," Grey said.

Bierlink added that while the PDR program is limited, it should be considered a catalyst for more action.

"It's setting the stage," he said. "Now we need to see how we can get the market to do that — get incentives for people's current right to build, and move them toward the city."

By the numbers

\$287.86 million

Total market value of Whatcom County agriculture, according to the 2002 Agriculture Census

1

Rank of Whatcom County's agriculture economy in Western Washington

6

Rank in state

53.4 years

Average age of a Whatcom County farmer

12

Percent of decline in number of farms from 1997 to 2002

47

Percent of increase of the average size of a Whatcom County farm

65

Approximate number of hours Roslyn McNichol works on her farm per week in spring, summer and fall

610

The approximate number of single-family residences that have been through the permitting process in agricultural-zoned land and rural-zoned land considered agriculturally significant between January 2002 and January 2007

From manure to money: the biodigester



Darryl Vander Haak uses the state's first dairy digester to turn cow manure into fertilizer and bedding for his dairy cattle. He has also been able to generate a small revenue stream through selling electricity generated by the plant.

To some, diversifying by turning cow poop into a revenue source sounds like a load of you know what.

But the pungent smell of manure that saturates Darryl Vander Haak's dairy farm has become a supplemental revenue source for the 64-year-old dairyman in the form of Washington state's first dairy digester, which produces power from methane gas.

Vander Haak started the digester three years ago with technological help from Ferndale-based heating and air conditioning company Andgar Corp., as well as funding assistance from the USDA and a Washington State University grant from Paul Allen.

The process offers multiple benefits to Vander Haak, his farm and the environment by generating income from waste.

He sells the energy created from methane gas in his dairy cows' manure, which would otherwise act as a polluting greenhouse gas, to Puget Sound Energy. The leftover liquid from the manure, rid of bacteria and 99 percent of all pathogens through the digester process, is used as fertilizer in his fields at his farm north of Lynden — a cow patty's throw away from the U.S.-Canadian border.

He uses the solids, which also have been rid of bacteria and 99 percent of all pathogens, and essentially look like fibrous mounds of topsoil, as bedding for the cows. This saves him \$3,000 a month from the cost of sawdust normally used for that purpose. He also sells the solids to local nurseries to use instead of peat moss for fertilizer.

And still more revenue comes from a fee he charges to local food producers who dump their food waste in the digester to enhance the mixture, as well as from the carbon credits and tax breaks he gets from the venture.

The digester has so far paid for itself and a little more.

"It's not a big revenue, but it's a lot of added ways of making revenue," Vander Haak said. For example, when milk prices were rock bottom a year ago, the digester offered at least some supplemental income.

If power rates increase — and Vander Haak thinks they might — his digester will be well worth the investment. Recently, one other Washington dairyman has begun producing methane power in Eastern Washington.

"If power rates tripled, every dairy farmer would have a digester," he said.

How it works

1. Take manure

All the manure from Vander Haak's cows is pumped into the digester — a large, 14-foot-deep underground container that holds one million gallons of manure.

2. Add heat

The digester is constantly heated to between 98 and 102 degrees, which separates the methane gas from the manure after about a month.

3. Generate power

The gas flows from the digester into a generator, then through a transformer into the power grid. It generates about 400 kilowatts per hour, enough energy for about 200 of Vander Haak's neighbors.

4. Separate solids and liquids

The liquid from the manure is pumped back into a lagoon that fertilizes his surrounding fields, and the solids are used for cow bedding and sold to nurseries as fertilizer.