

'The entire industry will be working to promote the brand'

COSMIC from Page 1

They are the top agricultural commodity, grossing \$2.4 billion annually. About 65 percent of the apples grown in the U.S. come from Washington orchards.

For three weeks in April and May, Anderson laid out neat rows and hauled trees and fertilizer, helping his three workers plant by hand 2,200 Cosmic Crisp trees on a little over 2 acres. Elsewhere in Central Washington, other growers planted up to 20,000 trees apiece, mostly by machine.

Anderson is optimistic about the new apple.

"It's something being heavily promoted, sounded like it might be fun. And, yes, I'm looking for better returns," said Anderson, 64, who with his wife, Sally, runs the orchard.

Anderson tore out Fuji apple trees last fall to make room for his Cosmic Crisp.

"Fuji are very late and I don't have a long enough growing season. There have been years I picked them in the snow and years they froze on the trees," Anderson said.

About the apple

Cosmic Crisp, once known only by its breeding name, WA 38, is the result of a cross between Enterprise and Honeycrisp apples made 20 years ago by apple breeder Bruce Barritt and his team at the Washington State University Tree Fruit Research and Extension Center in Wenatchee. The "parent" varieties were chosen for their outstanding flavor, color, storage ease and resistance to disease and disorders, according to Barritt.

His successor, Kate Evans, says Cosmic Crisp rated "statistically significantly" better in consumer tests of its taste and texture. It has a sweet, tangy flavor the industry believes consumers will like better than the popular Honeycrisp — and it's easier to grow and store.

Carolyn Ross, WSU associate professor of food science, led the naming process in 2014, settling on Cosmic for the apple's lenticels, tiny skin pores that look like starbursts, and Crisp, referencing its firmness and relationship to the Honeycrisp.

Unprecedented plan

Even after the new variety was developed it took years before the first commercial orchards were planted this spring. Nurseries had to build up enough Cosmic Crisp "mother" trees to provide scion material for budding onto rootstock. After budding, it takes two years to grow the trees for orchard planting.

This spring, the first 630,000 Cosmic Crisp trees were planted. An estimated 5 million trees will go out during each of the next two springs.

This rapid roll-out marks a first for the industry.

"The 5 million is an extremely high number for any one variety of apple tree to be



Washington apple plantings

(Percentage of statewide annual plantings by variety)

Variety	2015	2016	2017	2018*
Red Delicious	2%	1.7	1.7	0.5
Golden Delicious	0.6	0.3	0.2	0.4
Granny Smith	7.2	0.8	2.8	0.5
Jonagold	1.3	0.6	0.2	0
Gala	10.8	14.6	9.4	3.7
Fuji	7.2	11	10.6	3.2
Braeburn	0.2	0	0.1	0
Cripps Pink	6.1	6.1	8	1.9
Honeycrisp	39.9	35.9	21.8	12.5
Managed†	21	26.5	34.2	34.4
WA 38 (Cosmic Crisp)	0	0	7.5	40
Other	3.7	2.6	3.5	2.5

NOTE: Percentages may not equal 100 due to rounding.
*Estimate †Managed varieties, also known as club varieties.

Source: Neal Manly, Regal Fruit

Capital Press graphic

planted in any given year in the state or nationwide," said Neal Manly, managing partner of Regal Fruit, an apple breeding and variety management company in Ephrata, Wash.

According to Manly's survey of the state's nurseries, 40 percent of the trees planted next year will be Cosmic Crisp. Only Red Delicious and Honeycrisp reached 40 percent of annual plantings in the past and Gala peaked at 25 percent.

Newly planted trees produce few apples in their first two years, so Anderson and other growers will knock them off early so the tree's energy will go toward growth.

Lynell Brandt, president of Proprietary Variety Management, a Yakima, Wash., company WSU hired to help manage the commercialization of Cosmic Crisp, estimates that nearly 200,000, 40-pound boxes of Cosmic Crisp apples will debut in U.S. stores from the 2019 crop. That will jump to 1.9 million boxes in 2020, 5 million in 2021 and 9 million in 2022.

At the Washington State Tree Fruit Association meeting last December, Robert Kershaw, president of Domex Superfresh Growers in Yakima, said such an accelerated ramp-up has never before been tried. He called it "insanity" and a "gamble" that could end in reward or failure and said it would take the whole industry pulling together to write the Cosmic Crisp success story.

West Mathison, president of Stemilt Growers in Wenatchee, said the fastest switch in the consumption of varieties will happen over a five-year span that will "blow people's hair back." In the last two seasons, prices for Red Delicious and Gala have crashed because of too much volume and loss of consumer popularity.

Brandt anticipates Cosmic Crisp will replace large amounts of Reds and Gala in

relatively short order. Older strains of Fuji, Golden Delicious, Braeburn, Cameo and Jonagold and even Honeycrisp numbers will diminish, he said.

The new mix will be Cosmic Crisp and proprietary varieties, along with some Fuji, Gala, Granny Smith and Honeycrisp.

"We are hopeful Cosmic Crisp can be the new flagship of the industry. We have that hope because it's such a good apple and because the entire industry will be working to promote the brand in a very positive light and the industry has some exclusivity in the North American market, which can enhance the focus," Brandt said. Washington growers will be the sole source of the new apple in North America for the first decade.

Kershaw heads a committee of most of the state's major tree fruit companies advising Brandt on marketing.

"It's not without conflict but conflict is good to sort out all the issues and have a good healthy debate and to make sure we are looking at everything from all angles and perspectives," Kershaw said.

The committee has reached a consensus on every main decision, including uniform packaging. Grading standards are next and will need to be tightly managed to ensure a successful launch, he said.

Financial hopes

Honeycrisp is a big money-maker for the industry, but its margins have begun to narrow as volume has increased. It's common for Honeycrisp to sell at wholesale in the \$50-\$70 per box range while most other unmanaged varieties do well to reach \$30. Break-even for orchards is typically about \$17 a box.

For Cosmic Crisp, "the expectation is Honeycrisp pricing, but the consumer will de-



Dan Wheat/Capital Press

Ricardo Santacruz reaches for a Cosmic Crisp limb of buds as Eduardo Morales gets ready to wrap the bud. They are part of a crew of 45 budding Cosmic Crisp buds onto rootstock trees at Willow Drive Nursery near Ephrata, Wash., on Sept. 12, 2016.

cide. If they sell well at high prices, prices will stay high. If they don't, prices will need to come down to generate more momentum," Kershaw said.

Red Delicious, the volume king for 82 years, peaked at 61.4 million boxes in 1994 but was still at 39.5 million boxes this year, almost one-third of the state's apple production.

While the volume of Red Delicious has held up, its price hasn't. It was selling for \$11 to \$14.90 per box for standard grade, medium size on June 7. In 2014, it bottomed out at \$8 per box. At those prices, growers make no money and packer-shipper-marketers, who get their cut first, make little to nothing.

Grower costs and packing, shipping and marketing costs all vary, but Anderson, the Manson grower, said on a \$30 box of fruit the grower makes one-third and on a \$50 box the grower can make two-thirds.

Even the popular Honeycrisp has not performed well for him.

"I have not done well with Honeycrisp," he says. "My packouts are poor."

Cosmic Crisp should provide better returns than Honeycrisp because production costs will be lower and storage and packouts — after cull apples are taken out — will be better, Brandt said. He believes the new apple will top 30 million boxes annually.

If those numbers hold true and the price stays high, the payoff for the industry would be impressive.

In round numbers, just a 10 million-box crop of Cosmic Crisp that sells for \$30 per box would gross \$300 million; at \$50 per box, the crop would gross \$500 million.

WSU will get a royalty of 4.75 percent of every box that sells for more than \$20. On a \$500 million crop, 4.75 percent is \$23.7 million. There's also a \$1 royalty on every tree sold for planting. Trees generally cost \$9, including the royalty. On 10 million trees sold, the royalty is \$10 million.

Of those total royalties, around 20 percent will go for commercialization costs including patenting and Proprietary Variety Management's fee, said James Moyer, associate dean of research at WSU's College of Agricultural, Hu-

man and Natural Resource Sciences. Neither he nor PVM's Brandt would disclose the management fee.

Of the remaining royalties, 10 percent will go to the WSU Office of Commercialization; 10 percent will go to the College of Agricultural, Human and Natural Resource Sciences; 30 percent will be shared by the breeders; and 50 percent will go to WSU plant breeding programs with a majority earmarked for apple breeding, Moyer said.

"We're discussing ways in which we could create an endowment or some other vehicle to keep the apple breeding program secure for many years to come," Moyer said.

"We are extremely proud of the breeding program and the excitement it has generated in the industry and we are encouraged by how the industry has come together to cooperate and guide us in the licensing, marketing and developing standards," Moyer said.

Will it work?

While the Washington apple industry is hopeful, the big question remains: Will it work? Most people in the industry are optimistic, but some critics aren't as sure.

Desmond O'Rourke, retired WSU agricultural economist and an apple industry analyst, says the roll-out of any new variety, even when the supply is limited as a proprietary or club variety, can be challenging.

"Unless demand is built up as rapidly as supplies become available, it can be very difficult to maintain a premium price," he wrote in the January issue of his "World Apple Report."

Yields can fluctuate widely in new plantings and problems can arise in handling, storage, transportation, retail displays and consumers' kitchens, he wrote.

"Des is saying with niche varieties it is a challenge to keep critical mass. That won't be true with this. We will have critical mass and we will be able to sustain it," Brandt said.

Market penetration will be much higher than any club variety and demand will be driven by the "wow" factor, he predicted.

"I have yet to meet anyone who doesn't like this apple," he

said, "and that will drive huge repeat sales."

The industry needs a new main product, consumers are eager for new varieties and will quickly switch from older ones, Brandt said, adding that chances of success are "very good."

Byron Phillips, a national crop specialist in Wenatchee at Valent USA, a farm chemical producer in Walnut Creek, Calif., talked about the Cosmic Crisp risk in a March 5 LindeIn post.

He figured growers will plant 12 million trees in three years on an average of 1,089 per acre on 11,000 acres. Trees, trellises, land preparation and irrigation equipment will cost \$25,000 per acre, or \$50,000 per acre if the cost of buying land is included, he said.

From that he figures a collective industry investment of \$275 million to \$550 million over two years.

Brandt countered that growers typically replant various amounts of orchard annually, so it's not so much additional investment as a shift in investment.

"What makes this investment an even bigger gamble is that it is being made on a variety that the end consumer has never tasted, never seen and never heard of," wrote Phillips, a tree fruit horticulturist, fieldman and grower in Wenatchee over 38 years. He's served on the Northwest Horticultural Council Science Advisory Board for 14 years, been on Washington Tree Fruit Research Commission committees and is past chairman of the state Commission on Pesticide Registration.

Cosmic Crisp appearance is "very inconsistent," he wrote. Appearance has long been a focus of Washington apple sales so shifting to flavor and crunch could be a challenge, he wrote.

"I was just commenting on the gamble the industry is taking," he told Capital Press. "I hope it works out. Our industry has big risk-takers, which is a great thing."

The appearance is as consistent as any apple and maybe more so, said Kershaw, the Domex Superfresh Growers president. Consumers today are about taste, flavor and texture, he said.

"I always tell people that maybe appearance gets a consumer to buy the first time, but flavor is what makes them buy a second time and more," Kershaw said. "Eating quality is key so we want to focus on eating quality."

While Kershaw has called the fast ramp-up of Cosmic Crisp a "gamble," he says he thinks it will succeed with maybe some bumps along the way.

"The best thing for the industry is to not launch any new varieties that are not exceptional," he said. "If we are always improving, we have a chance of increasing consumption. ... It's really a simple formula. People eat what they like and we need to make sure we are growing what they like to eat."

'Let them use any organic technique they want, but they've got to conform to the order'

WEEDS from Page 1

Azure Farms could lose its organic certification for three years if it uses the sprays commonly used by conventional wheat farmers in the area.

Stelzer said mowing weeds is a method of "control," for example. County officials and local farmers don't believe mowing is sufficient.

However, County Commissioner Tom McCoy said the proposal is intended to let Azure Farms select any organic method it chooses to control weed seeds, rather than have the court dictate a method.

"We'll have them commit to not allowing (weed) seeds to form," he said. "Let them use any organic technique they want, but they've got to conform to the order."

The pending agreement allows Sherman County weed district employees to monitor Azure's fields. They may access the fields "by permission and appointment only" and must be accompanied by Azure Farms representatives.

If a weed patch is out of

compliance, Azure will have seven days to take care of it. If nothing is done, Sherman County will take action, which could involve spraying.

Azure's neighbors don't want seeds from noxious weeds blowing on to their fields, and the pending agreement defines control to that effect. In windy Sherman County, weed seeds can set sail.

The proposed agreement says it may be an option to let some "B" type weeds go to seed when Azure Farms uses various biological controls. Other methods mentioned in previous discussions include deep tillage, over-fertilization, covering with landscape fabric to block light and water, and spraying with substances such as calcium, manganese or boron to make blooms wilt.

Some Sherman County farmers believe Azure Farms should simply spray with an herbicide such as Milestone and endure the loss of organic certification for three years. The farm could then start over with clean fields, the conventional farmers argue. Farmers, espe-

cially those who grow certified seed, are most concerned about Rush Skeleton weed, Canada Thistle, White Top, Knapweed and Morning Glory.

The organic farm's weed problems have been a local issue since 2006, but came to a head this spring when the county warned it would ask the Oregon Department of Agriculture to quarantine the 1,922-acre farm if it didn't control rampant noxious weeds that neighboring wheat farmers said were spreading onto their ground. County officials warned they would spray herbicide and bill the farm for the work if the problem was not dealt with.

The uproar that followed jolted the county. Azure Standard, based in Dufur, Ore., and a major distributor of organic products, ignited a social media campaign that flooded county officials with telephone messages and an estimated 59,000 emails from around the world. Critics accused the county of planning to "poison" an organic farm with dangerous chemicals and of somehow doing the bidding of Monsanto.

McLerran says he quashed a tribe proposal to use EPA funds to sponsor measure to restrict farming

SENATE from Page 1

a hearing. The Republican-led committee closed the hearing without immediately voting to send McLerran's confirmation to the Senate floor, where it could be rejected.

McLerran told senators he wanted to collaborate with farmers on cleaning up Puget Sound.

"I have a deep respect for the agricultural community," he said. "The EPA is a tough place to be because it's an organization that does have regulatory responsibility, but at my core, I'm a collaborative person."

McLerran served as EPA Region 10 administrator for seven years during the Obama administration. The EPA funded the What's Upstream campaign between 2011 and 2016.

Erickson questioned McLerran about EPA records that show the agency was kept informed as the tribe and Strategies 360 developed a media campaign to portray farmers as unregulated water polluters.

Erickson told McLerran that farmers saw the campaign "as an attack on a way of life."



Don Jenkins/Capital Press

Former Environmental Protection Agency Northwest Administrator Dennis McLerran.

"Looking back, do you feel that was a good use of taxpayer dollars?" Erickson asked.

Said McLerran: "I felt some of it was a bit over the top."

McLerran said he quashed a tribe proposal to use EPA funds to sponsor a statewide ballot measure to restrict farming, but he didn't connect that plan with the broader What's Upstream campaign.

He said he didn't know about What's Upstream until he had a conference call with the tribe's environmental policy director Larry Wasserman in July 2015. McLerran said he asked the tribe to tone down the campaign, but that

the EPA didn't have the authority to stop it.

McLerran said the next he heard about the campaign was the following spring when What's Upstream billboards drew the ire of farmers and some federal lawmakers.

EPA records show that months earlier McLerran's staff prepared "talking points" on What's Upstream in case the subject came up during a meeting in December at the state Department of Ecology. McLerran said after the hearing Wednesday that he didn't recall the report on What's Upstream that EPA staff wrote for him.

The EPA at the national level distanced itself from What's Upstream after the campaign was condemned by some federal lawmakers, including the chairmen of the House and Senate agriculture committees. The EPA announced it was no longer funding the campaign, even though its earlier position had been that it couldn't dictate how the tribe and the Northwest Indian Fisheries Commission spent the money.