

Today is _____, _____ the _____. This is Ken Morgan's Northcoast Ag Report, our lead story is about _____ when we return

Perdue: Milk Marketing Order Done by 2018

A California representative Jim Costa asked the Secretary of Agriculture where the newly released milk marketing order is at in the process of being finalized and when the golden state could see it's adoption during a hearing of the House Agriculture Committee

Perdue stressed the need for this order in his response. "You've got a very significant dairy industry in California and the marketing order is important for stability, and predictability, in milk prices," Perdue said. "As I understand it, we just completed the first step in that on May 15 when we released it. I will commit to you that we will complete that marketing order by the end of the year."

USTR Notifies Congress of Intent to Renegotiate NAFTA

Audio with USTR Robert Lighthizer

The U.S. Trade Representative Thursday notified Congress of the administration's intent to renegotiate the North American Free Trade Agreement. The negotiations can now begin in 90 days, as outlined by law after a notification letter is sent to Congress. In a call with reporters, U.S. Trade Representative Robert Lighthizer said President Donald Trump is fulfilling a key promise by starting the renegotiation process...tape

Cut #1 :22 OC:... "to renegotiate NAFTA.

Lighthizer says the USTR office will begin working on negotiation intentions immediately...tape

Cut #2 :39 OC:... "August 16th"

<http://www.caes.ucdavis.edu/news/articles/2017/05/sweet-news-for-strawberries>

Sweet news for strawberries

May 08, 2017 — Diane Nelson

10 public varieties in the pipeline

Professor Steve Knapp, director of the UC Davis Strawberry Breeding Program, and his team are using genetic and genomic expertise to augment traditional breeding.

New science, education, and collaborations at the UC Davis Strawberry Breeding Program bode well for the quality and affordability of strawberry production in California. The expanding team of public breeders has launched large-scale yield and disease-resistance experiments on several farms throughout the state and will soon release a new, improved variety.

“The UC Davis Strawberry Breeding Program is setting the benchmark in breeding to improve strawberry quality, yield, and sustainability,” said Greg France, a longtime California Strawberry Commissioner and family farmer from Santa Maria. “And because all the data and material they develop is public, it will be accessible to all farmers.”

Developing new cultivars

To create a winning variety, breeders cross plants with desired traits and select the best offspring over multiple generations. It’s like time-lapse evolution, although it really doesn’t happen very quickly. It takes several years of plot testing to give birth to a variety good enough to name.

Professor Steve Knapp, director of the Strawberry Breeding Program, and his team have 10 new experimental varieties identified for large-scale commercial testing with California growers. The team has been focusing intensely on developing disease-resistant varieties, in addition to improving strawberry yield, flavor, shelf life, and production efficiency.

“We expect to release at least one cultivar this fall, and one or two more next year,” Knapp said.

Improving genetic resistance to disease

Strawberries are especially vulnerable to soil-borne pathogens, which destroy plants and greatly reduce yield. Since the 1960’s, strawberry growers have depended on fumigants like methyl bromide—a colorless, odorless gas—to control disease. But methyl bromide has been linked to lung disease and ozone-layer depletion and will no longer be available after 2017.

UC Davis breeders are collaborating with growers, other universities, and Professor Tom Gordon with the UC Davis Department of Plant Pathology on large-scale experiments to identify genes conferring resistance to Fusarium wilt, Verticillium wilt, anthracnose, and Macrophomina, four common culprits in California where 87 percent of the U.S. strawberry production takes place.

“We’re screening a diverse collection of 960 genotypes to identify sources of resistance for soil-borne pathogens,” said Glenn Cole, a staff research associate with the Strawberry Breeding Program. “This will help us identify genes of interest, which we can analyze further in the lab. It’s a significant step in developing varieties with greater resistance to disease.”

Gathering germplasm

Breeders need genetic diversity of germplasm, or plant material, to develop quality crops that can resist constantly evolving pests, diseases, and environmental stresses. The Strawberry Breeding Program is building diversity by collecting strawberry species from the wild and germplasm from the USDA.

“We’re scouring public sources for diversity for disease-resistant genes,” Knapp said. “We’re assessing genetic variability for disease resistance in the UC collection, in addition to other public collections and wild species, and asking, ‘What else is out there that can help us solve these disease problems?’”

The new germplasm is securely stored with the program's already impressive collection of material, including some 1,700 cultivars. The UC Davis breeders are testing experimental and existing commercial cultivars on farms in Watsonville, Santa Maria, and Oxnard.

"Each farmer has his own recipe, as I call it, for growing berries, which is good," Cole said. "It helps us see how it performs in different environments."

Diversifying locations and systems

Beyond farms in California's coastal climates, the breeders are also testing berries in a wide range of locations, systems, and seasons. For example, they are conducting summer plant trials to explore varieties farmers could plant in May and harvest in the fall.

"We're also testing production in new environments, such as in greenhouses and using hydroponics, and in organic farm systems," Cole said. "Strawberry stakeholders are evolving, we're evolving with them."

Integrating genetic tools

The Strawberry Breeding Program has incorporated advanced, genetic tools into its traditional, applied breeding program. The program now employs DNA sequencing and computer power to analyze a wealth of genetic data.

Some plant traits, such as flavor and size, are determined by many genes acting together. Other traits, such as resistance to a disease, may be regulated by a single gene. UC Davis strawberry breeders can now identify genes that influence some traits at a molecular level, so they can select plants at the seed or seedling stage based on their DNA sequence rather than wait for traits to express themselves as the plants mature. This speeds up the process.

"Genetic tools are an integral part of a successful breeding program," Knapp said. "We're using genetic and genomic expertise to augment traditional breeding and take it to the next level."

Enhancing flavor

A good berry should be sustainable, disease-resistant, and tasty, too. Julia Harshman, a postdoctoral scholar in the breeding program, is focusing on flavor.

“We’re conducting consumer surveys and working with sensory panels to make sure all our varieties are full of flavor,” said Harshman, who previously worked with apples at Washington State University. “Flavor reigns in apple breeding. I’m bringing that same attention to taste to strawberries.”

The program is also using new equipment and technology to make more precise measurements in flavor and other fruit-quality attributes.

Nurturing tomorrow’s breeders

Teaching is central to the UC Davis Strawberry Breeding Program, which now includes graduate and undergraduate education. Knapp mentors three graduate students and three postdoctoral trainees.

“And we have two more graduate students starting this fall,” Knapp said. “It’s important to train tomorrow’s breeders.”

Knapp is also recruiting more staff and research associates for sites in Watsonville and Oxnard. Next year, the short-day strawberry breeding program is in the process of relocating from Irvine to the Ventura/Oxnard area.

“We’re putting down roots in the heart of strawberry regions where the industry is located,” Knapp said.

Fulfilling the mission to serve

The UC Davis Strawberry Breeding Program was founded to protect small and established farmers by providing accessible, low-priced plants. Knapp is committed to that pledge.

“All of our research is available to every farmer, and that’s vital in today’s competitive marketplace,” Knapp said. “We are collaborating with other

land-grant institutions to secure federal funding, and we're employing applied breeding, genetics, and genomics to benefit the public good. The UC Davis Strawberry Breeding Program will continue to serve California's strawberry producers, shippers, processors and consumers, as it has done for more than 60 years."

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