

Mouth-Watering New Fruits

BOB NICHOLS (K7721-1)



At the Horticultural Crops Research Laboratory in Fresno, California, more than 50 flavorful summer fruits have been developed by horticulturist David Ramming and other ARS scientists.

BOB NICHOLS (K7721-3)



Commercial vineyards have planted more than one million of the ARS-developed Crimson Seedless grapevines.

Seven new, sweet-tasting fruits rate as top performers in orchard trials and informal indoor taste tests.

Using conventional breeding techniques and—in some cases—a lab procedure known as embryo rescue—scientists at the ARS Horticultural Crops Research Laboratory in Fresno, California, have within the past few years produced three juicy new peaches, two tasty nectarines, a flavorful grape for fall, and a robust new apricot.

Each new variety is derived from about a decade of scrutiny in commercial or research orchards or vineyards in California. The state ranks first nationally in production of each of these crops. And the San Joaquin Valley, where the ARS tests were centered, is California's premier growing region for all of these fruits.

Small quantities of some of the fruits have already been marketed by growers who provided orchard space for experimental trees or vines. Those tests took place while the plants were candidates for new-variety status and were known by research numbers instead of names. Today, the new varieties have already been named and offered to growers nationwide as cuttings.

If the fruits meet grower needs, it may take another 5 years or so before enough trees or vines are planted and sufficient fruit harvested to market nationwide.

The plump new peaches—Spring Baby, Spring Gem, and Autumn Red—and the nectarines Crimson Baby and September Free are the work of Fresno horticulturist David W. Ramming and his retired colleague, Owen L. Tanner.

Spring Baby peach is a bold experiment: It represents the first time the Fresno team has released a peach with canning clingstone flesh for fresh-market sales.

Says Ramming, "Normally, fresh-market peaches for eating out-of-hand are freestones, the kind with flesh that softens quickly and doesn't stick to the pit. But we're offering

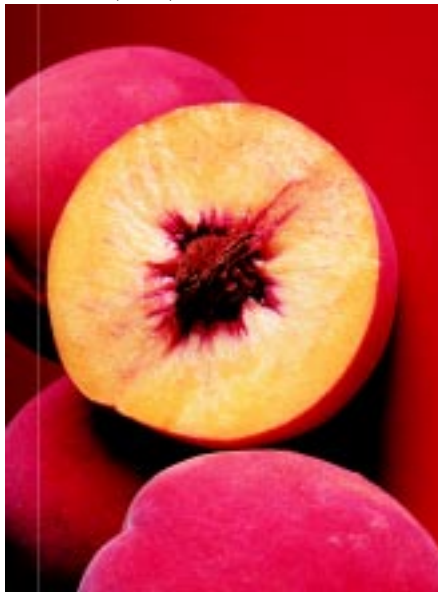
Spring Baby clingstone as a fresh-market peach because it remains firm longer and tastes better than most of the other U.S.-grown freestones available that time of year—that is, around the first week of May."

The idea of marketing a clingstone as a fresh-market peach isn't new, but it hasn't yet become routine in California.

Firm, round, and attractive, Spring Baby peaches are about 2-1/2 inches in diameter when ripe, with an appealing, bright-red blush or overcolor covering much of the fruit's surface. Spring Baby has very smooth skin and isn't plagued by split pits—a costly problem common to other early-season peaches.

Spring Gem peaches, ready at the end of May, are attractive, semi-freestone peaches for the early-

JACK DYKINGA (K6084-1)



Autumn Red peach.

season fresh market. Larger than Spring Baby, the Spring Gem fruit may be up to 3 inches in diameter when ready to eat. Like Spring Baby, Spring Gem also boast a bright-red blush on 30 to 50 percent of their surface when ripe.

Both Spring Baby and Spring Gem have pleasantly firm flesh when ripe. That's an advantage over many other early-season peaches, which are often soft and difficult to ship without bruising.

Spring Baby and Spring Gem trees were once extremely undersized embryos that Ramming and colleague Richard L. Emershad carefully removed from the developing stone, or pit, then nurtured on a gel-like bed of nutrients.

"We almost always have to use this embryo rescue procedure to develop very-early-season treefruits and seedless grapes," says Ramming. "When we cross early-fruiting parents, the resulting embryo is usually so tiny that it probably wouldn't survive without our help."

The scientists' ongoing push for new, early-maturing fruits means winter-weary consumers can enjoy a wider selection of American-grown fruits sooner in spring than ever before.

The researchers want to widen the range of choices available to shoppers at the end of the treefruit and table-grape season, as well. Though California peaches can sometimes be ready to harvest as late as October, depending on the weather, peaches that ripen in August are already considered late season. That's the ripening window for ARS' Autumn Red peaches, which are ready for salads, snacks, or desserts by the third week of August.

These large freestones have yellow-orange flesh that's red only at

the pit. And they're what growers call fully blushed—most of the yellow skin is covered with a dark-red overcolor. "Autumn Red," says Ramming, "is one of several new varieties offered to meet the demand for high-red-blush peaches late in the season."

Early-season nectarines are often undersized, misshapen, and ruined by broken pits. That's not the case with the new Crimson Baby nectarine. It

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Autumn Royal, a new seedless grape.

bears generously sized (about 2-1/2-inch) fruit.

Large, round Crimson Baby nectarines have clear, yellow flesh. The nectarine's pretty red overcolor may tint nearly 90 percent of the skin, and sometimes it is lightly dusted with speckles.

Even though California orchards produce more than 150 kinds of nectarines, there's still room at the end of the season for new, good-tasting varieties. "The majority of nectarines that ripen in August and September," says Ramming, "are

clingstones. Our new September Free nectarines provide a very firm, top-quality freestone fruit that's ready to harvest about the last week of August or the first week of September."

Ramming says trees of this promising new, red-blushed fruit were "vigorous and productive in yield trials."

These fruits join the ranks of 26 other treefruits and grapes developed at the Fresno laboratory during the past 25 years for commercial growers and backyard gardeners alike. Those varieties include Flavorcrest, today the third most widely grown fresh-market peach in California; Fantasia, which places among the top 20 California nectarine varieties; and Flame Seedless, the nation's most popular red seedless grape.

The newest grape from the Fresno scientists is Autumn Royal, a black-to-purple-black, generally seedless grape for fall. Ramming worked with research technician Ronald E. Tarailo at Fresno to produce this crisp, sweet-tasting grape. It ripens in the first to second week of October, near the very end of the table-grape season for U.S. producers. And because it stores well, it can be marketed into December.

"Autumn Royal," says Ramming, "is ready to eat at a time of the year when shoppers really don't have a lot of high-quality seedless grapes to choose from. Even after winter begins," he says, "this delicious grape will give you a taste of summer."—By **Marcia Wood**, ARS.

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New Robada's a Superb Apricot

Big and juicy Robada apricots give U.S. growers an alternative to the five standard varieties of this fruit grown commercially in the United States today.

"Robada," says Agricultural Research Service geneticist Craig A. Ledbetter, "has a pleasant balance of natural sugars, acids, and aromatic compounds. People who've tasted it think it's outstanding!"

"Robada offers more flavor and aroma than many other commercial apricots. And it ships well," says Ledbetter, who is at the ARS Horticultural Crops Research Laboratory in Fresno, California.

The jumbo fruit is intended for fresh-market sales, though further testing may reveal that it is also suitable for drying, canning, or freezing.

Robada ripens in mid-May through nearly the end of the month—"the peak of the California apricot harvest," Ledbetter says. The apricot's firm, finely textured flesh is an attractive deep orange. A bright-red blush may tint nearly half of its surface, depending on how much sun reaches the fruit during ripening.

Like most other commercial apricots, Robada is self-pollinating, meaning that each tree will bear fruit without the need for other apricot trees to be planted nearby as pollen sources.

Robada is the result of four consecutive hybridizations of different sets of parent trees. Those crosses, made by horticulturist David W. Ramming of the Fresno laboratory, were followed by 8 years of orchard observation by Ledbetter and Ramming.

ARS has obtained a patent for the apricot. Commercial nurseries can apply to the ARS Office of Technol-

CRAIG LEDBETTER



Robada apricot trees produce jumbo fruit for fresh-market sales.

ogy Transfer for a license to produce Robada trees.

Though the Fresno research results apply primarily to California orchards, Robada might be suitable for other U.S. regions where apricots are grown. California produces nearly all of America's apricots. The state's 1996 harvest of 76,000 tons was worth \$32 million to growers.—

By **Marcia Wood**, ARS.

For further information about U.S. Plant Patent Number 9,890, "Apricot cv. Robada," contact Craig A. Ledbetter, USDA-ARS Horticultural Crops Research Laboratory, 2021 S. Peach Ave., Fresno, CA 93727; phone (209) 453-3064, fax (209) 453-3088, e-mail jlitster@qnis.net ♦