

Evaluation of Delicious Sports in Washington

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During the past 25 years, the Delicious apple has undergone an almost complete facelifting. Over 160 natural mutations have been found and evaluated, resulting in several new listings that are quite unlike the original Delicious found on the Jesse Hiatt farm near Winterset, Iowa, in the late 1880's. In fact, some of the new strains differ so much from each other that they may rightly be evaluated as new *varieties* instead of strains.

Growers are continually on the alert to plant the most promising new strain. The true reputation of a new strain is established only after it is given extensive trials by growers in many districts. Research stations play an important role in speeding up the evaluation of new strains.

All major northwest nurseries list at least one Red Delicious classified in the "top ten" with regard to color.

In general, the race for color is pretty well over. All the top ten Red Delicious will practically guarantee 100% extra fancy color in all central Washington districts. As a matter of fact, some new mutations have been found to be *too* dark in color and are being held off the market.

We are looking for other favorable characteristics among the various red sports, including typiness of fruit, flavor, early maturity, late maturity, keeping ability, and certain desirable tree growth characteristics. A good example of the latter is to compare Starkrimson with the new Red King Oregon Spur. A row of each of these, side by side, pruned by the same person, reveals real genetic differences in tree growth habits. Starkrimson is

rigidly upright while the Red King Oregon Spur is spreading.

We often hear people refer to Starking Red Delicious as the standard of comparison. But which Starking? Stark Brothers Nursery can be proud to be the standard bearer for this great apple. In keeping the Starking Delicious reputation high, the company has changed to new strains from time to time—each thought to be a bit superior to the last. Thus, today when we speak of Starking, we probably refer to the 'Frank' strain, the current "edition."

The so-called "top ten" list of commercially available list of superior Red Delicious sports has now increased to 32, *any one of which would be worthy of recommendation*. They are the winners among the 162 mutations found and evaluated to date.

The selections are grouped into striped finish or blush finish with regard to color. Most of the predominant striped selections are non-spurs. However, in recent years selections of striped spurs have been selected and are available. A striped color finish will vary from strain to strain and even on the same tree from branch to branch. A review of literature reveals some strains to be listed as blushed by one author and striped by another.

The selections are also grouped as spur or standard type (non-spur). It is interesting to note that there appear to be all graduations from one extreme to the other. Thus, some spurs are referred to as more or less spurry than Starkrimson, the most widely planted spur-type strain.

There are many trial plantings in the Pacific Northwest of red Delicious, but one near Selah, Washington, in

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the Jim Matson orchard, deserves special mention. We have established 32 strains on Malling Merton III rootstocks, each replicated 15 times. Many of these produced their first fruit in 1970. Next season will be the first year for USDA-WSU personnel to start the research evaluation. This project is only one of many variety research studies underway in the Northwest and will be continued for many years.

In the following paragraphs, 32 strains are described. Within each group, we chose to list them in alphabetical order, because, at the time of writing this, *all* can be recommended without reservations.

Spur Types

Atwood Spur was discovered as a limb mutation on a Starking Delicious by Charles Atwood near Monitor, Wash., in the late fifties. It produces a blush type color, and is assigned to Yakima Valley Nursery.

Beauty Spur is a branch mutation of Cal Cooper's found in his orchard near Brewster, Washington. It is not assigned at the present time. The Matson test includes three other Cooper selections of spur, striped apples. One, known as **Heavy Stripe**, has been assigned to Stark Brothers Nursery.

Campbell Spur is a branch mutation found on a Starkrimson tree by Fred Campbell on the Royal Slope near Othello, Washington. This newcomer produces prominent stripes on the spur growth typical of the Bisbee strain. It was assigned to Hilltop Nurseries in 1969.

Earlistripe is a Cal Cooper discovery of a limb sport found in 1960. The block has been previously worked over to some new spur sports. It is known, however, that either Wellspur or Bisbee is the parent of Earlistripe. The prominent striped apple is assigned to Heath's Nursery, Pateros; May Nursery, Yakima; and the Columbia Basin Nursery, Quincy.

Hardispur is a blush spur type discovered in the Scotty Griffith orchard near Dryden, Wash., in 1956. It was originally named 'Lonely' because it stood out as the only surviving tree in a block of 20-year-old Starkings devastated by the 1955 freeze. It is listed by the Carlton Nursery of Forest Grove, Oregon, and the Yakima Valley Nursery.

Hargrave Spur is a blush type discovered in 1953 by Hugh Hargrave as a limb sport of an old Starking tree in his orchard on Naches Heights, Washington. This one appears to be more spurry and more compact than Starkrimson. It is not assigned to a nursery as of today.

Miller Sturdeespur was discovered as a whole tree spur sport in the Henry Miller orchard at Paw Paw, West Virginia. The fruit is blush type. It is assigned to Hilltop Nurseries, Hartford, Michigan.

Morgan Spur is a new striped spur under test by C & O Nursery, Wenatchee. It was discovered by Blaine Madden near Methow, Wash., in the early sixties.

Red King Oregon Spur was discovered as a limb sport of a Red King tree in the Wayne Trumbull orchard near Milton-Freewater, Wash., in 1964. It is a spur type, and is noted for wide-angle crotches. The fruit starts to color with a stripe, and later fills in to a full red color. It is assigned to the Van Well Nursery, Wenatchee.

Redspur was discovered by Phil Jenkins in the Elon Gilbert orchard near Parker, Wash., about 1954. This whole tree sport produces blush apples on spur type growth. It is assigned to C & O Nursery. This nursery is also testing selections of Redspur producing prominent stripes.

Regal Chelan is a striped spur type limb mutation, discovered in 1961 in the Cal Cooper orchard near Pateros, Washington. The parent tree is Well-

spur. The stripe is prominent and the color is bright red. This newly named selection is assigned to the Columbia Basin Nursery.

Riggs Spur was discovered as a whole tree sport in 1965 at the Ottis Riggs orchard near Parker, Washington. This blush type spur apple has been assigned to Carlton Nursery for test and evaluation.

Skyspur is a whole tree spur sport of Skyline Supreme. It was found in the Derby & Sons orchard near Woodside, Delaware, in 1965. Skyspur is listed by Bountiful Ridge Nursery, Princess Anne, Maryland.

Starkrimson was discovered by Roy Bisbee at Hood River, Oregon, in 1952 as a 12-year-old whole tree sport. It is well known as the *first* super sport of red Delicious with spur characteristics and is often referred to as 'Bisbee'. Spur type Delicious, such as Okanoma, were found prior to this, but they were *not* superior in color. Generally classified as a blush or solid color, Starkrimson is also known to produce some very striped fruit. It is assigned to Stark Brothers Nursery.

Wellspur was selected from the best of three whole tree sports found in the Wells and Wade Fruit Company orchard near Azwell, Wash., in 1953. It is classified as a blush spur type but is known to produce trees that bear prominent striped apples. It is assigned to May Nurseries, Yakima; Heath's Nursery, Pateros; and Van Well Nursery, Wenatchee.

Standard Type or Non-Spur

Chelan Red was one of the first super-red blush mutations to be found in the Starking variety. It was discovered as a whole tree sport in a J. D. Hamilton Fruit Company orchard near Manson. Although the original tree was planted about 1932, this selection was not assigned to any nursery until 1967 when the Yakima Valley Nursery took the assignment.

Dietrich is a whole tree sport found in a Starking orchard by Ray Travers near Watsonville, California. This solid blush apple became noteworthy when it was rated as one of the highest color selections at the W.S.U. Columbia View plots. This non-spur is *not* assigned to any nursery but is widely distributed in grower trials.

Earli-Brite Delicious is a new non-spur blush listing of Stark Brothers Nursery chosen from a branch mutation of a Ryan Red Delicious tree planted in the Harold Matson orchard near Zillah, Washington. This apple is very early coloring and finishes with a bright red color. It was discovered in 1965.

Groth Red is another Carlton Nursery non-spur presently under test. The first fruit produced in the Jim Matson planting was blush with bright, full, red finish.

Hi Early is a whole tree sport found by George Neff in his Starking planting near Pateros, Wash., in 1945. This selection finishes with an attractive stripe. It is assigned to the Heath Nursery near Brewster, Washington.

Houser is a limb sport found on a mature Starking by Lawrence Houser, Selah, Wash., in 1956. It is a solid blush apple assigned to Carlton Nursery; Central Howell Nursery, Silverton, Oregon; and the Yakima Valley Nursery.

Imperial is a blush type selected from a whole tree sport found in the Elon Gilbert orchard near Parker, Wash., in 1954. This proven super sport is listed by May Nursery, Yakima, and Hilltop Nursery, Hartford, Michigan.

Red King Brauns is the latest bud selection of the old favorite Red King. It starts with a distinctive stripe and fills in to an all over deep red finish. The original Red King was found in 1936 as a limb sport in the Barker Fruit Company orchard near Riverside, Washington. This selection is

offered by the Van Well Nursery from improved mutations of the original.

Red Prince is one of the prominently striped sports to first gain western recognition by its performance at the Washington State University Columbia View research plots. It was found as a limb sport in the Horner orchard near Martinburg, West Virginia, in 1954. It is assigned to Hilltop Nursery.

Red Queen is a limb sport of a Starking tree found by Russell Myers in one of Henry Miller's orchards near Paw Paw, West Virginia, about 1953. This prominently striped is listed by Hilltop Nursery.

Royal Red is a blush strain noted for finishing with a bright red color. It has the added distinction of being the only selection being found in a nursery owned orchard. It was discovered as a limb sport of a Richared Delicious in 1948 and is listed by C & O Nursery.

Ryan Red is a branch sport found in the Jim Ryan orchard near Parker, Washington, in 1953. This selection is generally called a blush, but is known to produce some striped color. It is offered by Carlton Nursery.

Sharp Red is a sport found in East Wenatchee by Del Sharp. This apple is prominently striped with a deep crimson finish and is assigned to the Van Well Nursery.

Skyline Supreme is a standard tree sport of Starking found in 1959 in the William Dalton orchard near Hendersonville, North Carolina. It is offered by Bountiful Ridge Nursery, Princess Anne, Maryland, who claim the sport matures with McIntosh.

Starking (Franks) is the current bud selection for this famous apple name. It was found as a whole tree sport in the Frank Rypczynski orchard near Hood River, Oregon, in the late fifties. This striped non-spur is listed by Stark Brothers Nursery.

Topred is the famous limb sport of a Shotwell Delicious tree found by Leonard Hutchinson in his orchard near Tonasket, Wash., in 1956. This striped type is offered by C & O Nursery.

As we review the nursery catalogs of the past quarter century, we realize that the parade of new strains of Delicious has been continuous. There is no reason to believe it will subside even though the race for color is generally over.

Promising Apple Varieties for Southern Illinois

James B. Mowry reported on the performance of apple varieties at Southern University at Carbondale, during the 1969 A. P. S. meeting in Arkansas. The primary purpose of the apple testing program at Carbondale is to find "early maturing, red colored, attractive dessert and culinary apples that are firm enough to be handled in wholesale fresh market channels." Because of high prevailing temperatures and high absolute humidity, apple varieties develop less color, are less attractive, and are more susceptible to fire blight at Carbondale than the same varieties in more northern locations. Some 88 varieties of all seasons were tested, including many new introductions and numbered selections.

"The following varieties are noteworthy for attractive fruits and lack of fire blight susceptibility at Carbondale, and are worthy of more extensive trial planting by commercial apple growers: Quinte, Julyred, Viking, Beverly Hills, Red Gravenstein, Ozark Beauty, Prima, Cortland, Kendall, Holland, Ruby, and Blushing Golden. . . . Julyred, Viking, Beverly Hills and Prima are still in their early fruiting years, so their index (fire blight susceptibility) may change." (See Proc., Ark. State Hort. Soc., 1969, for more details.)