

# Strawberry Variety Performance in Coastal British Columbia

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Agassiz, British Columbia

The southwest coastal region of British Columbia is an important strawberry producing area. In the past, the main varieties were Marshall and British Sovereign. In recent years, Marshall, in particular, has been replaced by varieties of more recent origin such as Northwest, Siletz, Puget Beauty and Agassiz. Of these, Northwest is the most important largely because it makes an outstanding frozen product. The variety has the disadvantages of susceptibility to root rots, including red stele, and to winter injury. Although Siletz lacks the fine quality of Northwest, it has increased in popularity in recent years because it shows considerable resistance to red stele and other root rots, and is a high yielder. Puget Beauty and Agassiz are grown on limited acreages, and

each is of interest because of good quality and winter hardiness. Puget Beauty has appeared particularly susceptible to virus diseases. Agassiz has the disadvantage of susceptibility to root rots and powdery mildew. British Sovereign has remained the most popular variety for local fresh market production.

For some years strawberry variety trials have been conducted by the Canada Department of Agriculture, Experimental Farm, at Agassiz, B. C. Early in this work it was found that the matted row planting system was more satisfactory than the hill row planting system for most of the varieties tested. Table 1 gives a summary of the yields from matted rows of the varieties from two trials at the Small Fruits Substation, Abbotsford,

Table 1. Yield data from strawberry variety trials conducted at the Abbotsford Small Fruits Substation.

| Variety           | 1960 | Marketable yields in tons per acre |      |      | Mean |
|-------------------|------|------------------------------------|------|------|------|
|                   |      | 1961                               | 1963 | 1964 |      |
| Agassiz           | 7.5  | 7.4                                | 6.2  | 6.8  | 7.0  |
| British Sovereign | 6.6  | 6.3                                | 5.5  | 5.8  | 6.1  |
| Northwest         | 6.3  | 6.9                                | 4.6  | 8.2  | 6.5  |
| Puget Beauty      | 7.8  | 7.8                                | 4.9  | 6.6  | 6.8  |
| Siletz            | 6.9  | 9.2                                | 5.4  | 6.5  | 7.0  |
| Cavalier          | 3.7  | 3.6                                |      |      | 3.7  |
| Grenadier         | 6.2  | 5.1                                |      |      | 5.7  |
| Guardsman         | 7.0  | 7.2                                |      |      | 7.1  |
| Redcoat           | 6.6  | 5.0                                | —    |      | 5.8  |
| Cascade           |      |                                    | 4.3  | 7.0  | 5.7  |
| Columbia          |      |                                    | 5.1  | 5.2  | 5.2  |
| Molalla           |      |                                    | 4.8  | 8.5  | 6.7  |
| Surecrop          |      |                                    | 2.1  | 3.4  | 2.8  |
| Saanichton-9      |      |                                    | 6.5  | 7.5  | 7.0  |

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B. C., one planted in 1959, and the other planted in 1962. In the 1959 trial each variety was represented by a 30 ft. row in each of four replications and in the 1962 trial by a 50 ft. row in each of three replications. With one exception, certified plants were

used for each variety included in the trial. Northwest plants were obtained from approved stock, clone 9 in 1959, and clone 10 in 1962.

Of the varieties included in both trials, Agassiz was a consistent high yielder (Table 1). Winter injury in

**Table 2. Percent culls from strawberry variety trials conducted at the Abbotsford Small Fruits Substation.**

| Variety           | 1960 | 1961 | 1963 | 1964 | Mean |
|-------------------|------|------|------|------|------|
| Agassiz           |      |      |      |      | 19.5 |
| British Sovereign |      |      |      |      | 18.5 |
| Northwest         |      |      |      |      | 12.6 |
| Puget Beauty      |      |      |      |      | 10.4 |
| Siletz            |      |      |      |      | 23.9 |
| Cavalier          |      |      |      |      | 11.6 |
| Grenadier         |      |      |      |      | 11.0 |
| Guardsman         |      |      |      |      | 15.0 |
| Redcoat           |      |      |      |      | 9.5  |
| Cascade           |      |      | 6.1  | 15.0 | 10.6 |
| Columbia          |      |      | 6.1  | 14.4 | 10.3 |
| Molalla           |      |      | 4.7  | 12.4 | 8.6  |
| Surecrop          |      |      | 11.9 | 11.0 | 11.5 |
| Saanichton-9      |      |      | 8.4  | 34.4 | 21.4 |

**Table 3. Total acid, sugar, and ascorbic acid content of the fruit of 14 strawberry varieties. Mean values 1960, 1963, 1964.**

| Variety           | Total acidity<br>(% citric) | Sugar<br>(%) | Sugar/acid<br>ratio | Ascorbic<br>acid<br>(mg/100 gm) |
|-------------------|-----------------------------|--------------|---------------------|---------------------------------|
| Agassiz           | 1.25                        |              | 6.8                 | 37.3                            |
| British Sovereign | 0.97                        |              | 10.1                | 48.2                            |
| Northwest         | 0.94                        |              | 9.0                 | 42.8                            |
| Puget Beauty      | 0.76                        |              | 12.0                | 30.5                            |
| Siletz            | 1.00                        |              | 8.4                 | 35.4                            |
| Cavalier*         | 0.99                        |              | 10.1                | 37.6                            |
| Grenadier*        | 1.08                        |              | 8.4                 | 9.0                             |
| Guardsman*        | 1.23                        |              | 6.7                 | 4.4                             |
| Redcoat*          | 0.95                        |              | 8.7                 | 26.4                            |
| Cascade†          | 0.87                        |              | 10.5                | 16.9                            |
| Columbia†         | 0.88                        |              | 9.7                 | 42.4                            |
| Molalla†          | 0.94                        |              | 9.8                 | 47.8                            |
| Surecrop†         | 1.13                        |              | 6.9                 | 34.4                            |
| Saanichton-9†     | 0.73                        |              | 10.9                | 10.9                            |

\*Values for 1960 only.

†Values for 1963 and 1964 only.

1962-1963 was considered to be a factor in yield reduction with several of the varieties, including Siletz and Northwest.

In Table 2 the percentage of culls is given for each of the varieties in each of the years. Most of the culling was done for fruit rot. Siletz was particularly susceptible to the disease. Losses would have been much higher in each of the years if a regular spray program for fruit rot control had not been followed.

Since most of the strawberries grown in the coastal area of British Columbia are processed frozen, it is important to evaluate, by means of organoleptic (taste) tests, frozen packs of each variety. Northwest consistently gave the most satisfactory frozen product. Of the other varieties tested, Puget Beauty, Agassiz and Columbia gave frozen products which approached Northwest in quality. Each of the other varieties tested gave an unsatisfactory product.

In addition to the organoleptic tests, quality of the fruit was assessed by determining acidity, sugar and ascorbic acid (Vitamin C). The results of these analyses are summarized in Table 3. Agassiz and Guardsman were highest in total acidity, and relatively low in sugar content. Puget Beauty had the lowest acid and highest sugar/acid ratio of all varieties under test, resulting in a bland flavor. British Sovereign and Molalla were highest in ascorbic acid, followed by Northwest and Columbia; Guardsman, Grenadier and Saanichton-9 were lowest.

None of the varieties tested met all of the requirements of a variety ideally adapted to coastal conditions of southwest British Columbia. It is hoped that more suitable varieties will evolve from the breeding program being conducted at the Experimental Farm, Agassiz, B. C.

## Plaque Dedicated in Memory of J. H. Hale

On August 17, 1965, the Connecticut Pomological Society dedicated a bronze plaque in memory of the late J. H. Hale (1853-1917), whom most of you probably remember as the one who discovered and introduced the J. H. Hale peach in 1909.

John Howard Hale was born in Glastonbury, Conn., on Nov. 25, 1853, a descendent of Samuel Hale, who came from Wales England to the Connecticut colony in 1638.

By the age of 16 he already had an orchard of 200 peach trees, and by 1890 had 10,000 trees at Glastonbury. He then established orchards in Ft. Valley Georgia, and in time owned 2,500 acres of peaches, and earned the title of "peach king."

Hale also developed a sizable nursery business, and distributed many new peach varieties including the chance seedling bearing his own name. He was the first American orchardist to grade fruit and label by grade. He was the second president of the Connecticut Pomological Society. Hale was president of the American Pomological Society from 1900 to 1904, and truly one of the great American horticulturists of his day.

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## Possible Improved Method for Listing Season for Apple Clones

J. B. Mowry, of Carbondale, Ill., has suggested that the harvest season for apple clones might be best given in terms of days before or after Delicious, or another standard variety. If this were done for each new clone for a specific test area, growers and horticulturists in other climatic zones could easily approximate the harvest date for the new clone in their respective locations.