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growing STRAWBERRIES

in South Dakota

COOPERATIVE EXTENSION SERVICE SOUTH DAKOTA STATE UNIVERSITY UNITED STATES DEPARTMENT OF AGRICULTURE

FS 344

BERRIES in South Dakota

by DEAN MARTIN, extension horticulturist

The strawberry, a fruit that compares favorably with the citrus varieties as a source of vitamin C, may be grown in most parts of South Dakota.

SIK

growing

A planting of 50 June-bearing plants will produce a matted row containing approximately 300 to 400 plants and should produce 150 to 200 quarts of fruit. Everbearing plants grown in a well-cared for hill system can produce up to one quart of berries per plant.

In order to produce high yields, strawberries should never lack moisture. They can benefit from $1\frac{1}{2}$ to 2 inches of moisture per week during the season. In most areas of South Dakota this requires some type of irrigation since rainfall usually does not supply this amount of moisture. The irrigation system need not be elaborate; since most homes have electricity and pressure water systems, some type of arrangement usually can be worked out to supply the necessary water.

SITE

Strawberries give a high yield for the space they occupy, so use the best site available. The plant can adapt itself to many soil and climate conditions, but good results may be expected on soil that is light and easily worked, holds moisture, has medium fertility, and contains a high percentage of organic matter.

Plan strawberry plantings in advance so that green manure crops can be plowed under. Summer fallow the land or grow a clean, cultivated crop the year prior to planting to reduce possible root damage from white grubs. Stable manure may be used, but growers should be careful not to bring in weed seed. A pre-planting broadcast application of 10 to 20 pounds of a 10-10-10 fertilizer usually is advisable.

Strawberries planted on a slope that faces south may have greater heat and drought injury than those facing north or east. The best site includes wind protection on three sides, preferably the north, west, and south; this may be provided by shrub or tree plantings, but corn cribbing, wooden fences, or buildings may also provide protection.

VARIETIES

The success of strawberry production often depends upon the variety used. June-bearing varieties such as Senator Dunlap and Premier can be grown under a wide range of conditions; both produce good quality fruit. Most other varieties are more sensitive to soil and climate conditions, but June-bearing varieties that have performed well are Robinson, Vermilion, Pocahontas, and Sparkle.

Superfection is the most planted of the everbearing strawberry varieties. Gem appears to be identical to Superfection. Red Rich has high quality, but appears to be difficult to establish in South Dakota. Streamliner looks promising from limited observation. Ogallala, one of the newer varieties, is gaining in popularity and appears to be well adapted.

For a more complete description of strawberry varieties, refer to South Dakota State University Experiment Station Bulletin 486, "Strawberry Production in South Dakota."

PLANTING TIME

Early spring is the best time to set strawberry plants. When everbearing plants are set very early in the spring, the first and best crop can be expected in the fall of that year. All blossoms should be removed until about July 1.

June-bearing plants set early in the spring produce early runners. This results in many well-developed runner plants by early fall when fruit buds are set. Plants set late in the spring or during early summer usually produce poor, unproductive runner plants.

ORDERING PLANTS

Order plants early to get the best plants at the right time. A commercial grower can supply the best strawberry plants. The cost of digging from an old bed will be almost as much as for plants bought from a nursery. Dependable nurseries will supply only high quality plants, less likely to carry diseases than those dug from a neighbor's patch. Order plants in mid-winter for delivery about April 1 to 15.

Virus-free plants

Plants referred to as "virus free" have been fieldgrown from virus-free foundation stock. Field-grown stock is treated with insectides to control aphids which transmit virus diseases. Secure plants that are certified virus free,



Figure 1. Three-row hill system at planting time (left) and at end of first season (right).

SETTING AND CARE

Set plants as soon as possible after they arrive. If wet soil or other conditions prevent immediate planting, store plants in a cool, moist place. If it is necessary to hold them for several days, open the packaging, spread the roots and cover with moist soil. If left packaged plants may heat and injure the roots. Always keep roots moist — never let them dry.

Planting depth is important. Any planting method is satisfactory which leaves the roots reasonably straight down in the soil, the top of the crown level with the soil line, and the soil well packed around the roots.

June-Bearing

June-bearing strawberries are usually grown in a matted row. In this system set plants 18 to 24 inches apart in rows four feet apart. Each plant will produce several runner plants forming a matted row 18 to 24 inches wide. (See figure 1.)

For best results allow runner plants to become established no closer than six inches apart. Remove all surplus runner plants. Remove any blossoms produced the first year; failure to do so will result in greatly reduced yields the following year.

June-bearing varieties produce their first and best crop in July of the second growing season following planting. Such a planting is frequently retained for another season; the yield, however, is generally somewhat reduced.

Everbearing

Everbearing strawberry varieties are usually grown in the hill system. The most desirable hill system consists of beds containing three rows one foot apart with plants spaced one foot apart within the rows. A two-foot path is left between beds. This is the so-called three-row system. (See figure 2.) Remove all everbearing blossoms that develop before June 15 in southern counties and July 1 in northern counties. Mulching with one to two inches of ground corn cobs or sawdust about June 15 is effective for conserving moisture, controlling weeds, and keeping fruit clean.

Everbearing strawberries produce their first and best crop in the late summer and early fall of the same season in which they are planted. If fruit is desired during the first growing season, plant everbearing varieties.

FERTILIZING

Strawberry plantings that are to be kept over for another season will usually benefit from a fertilizer application. This application should be made as a side-dressing shortly after the fruiting season. A 10-10-10 fertilizer can be used at the rate of three to four pounds per 100 feet of row. Brush plants to remove any fertilizer granules from the foliage.

MULCHING

The fruit buds of June-bearing strawberries are formed in early fall. These buds are injured more in winter than the leaf buds, and unprotected plants often will not produce much fruit.

Mulch late in the fall after several frosts have occurred, but before severe weather sets in. Marsh hay makes good mulch, but any other material can be used that will protect the plants against winter injury. Two to three inches of hay will give adequate protection.

Remove mulch late in the spring before the leaves start to turn yellow. Leave some mulch on the ground within the row to keep the fruit clean; the remaining mulch may be placed in the picking aisles.



Figure 2. Matted-row system at planting time (left) and at end of first growing season (right).

WEED CONTROL

Weed control is important in the successful establishment of a strawberry planting. Hand weeding is usually practical in small plantings, but power weeding equipment is more practical in large plantings.

Chemicals are sometimes used for controlling weeds in strawberries. The chemicals generally recommended for this purpose are the pre-emergence type; that is, they are applied to the soil before the weeds appear and kill the weeds as the seeds begin to germinate. If chemicals are used for controlling weeds in strawberries, follow the label directions exactly.

LOW YIELDS

Strawberry plants may not always produce fruit in South Dakota. Among more common causes for low yields are insufficient soil moisture, crowding of plants, weeds, injury to plants not protected against freezing weather, and damage to the blossoms by late-spring frost. Occasionally disease infects old plantings.

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