STRAWBERRY GROWING IN COLORADO

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Wild strawberries grow the world over; from the Equator almost to the Arctic Circle. This wide natural range, coupled with the fact that it’s the first ripe fruit of the season, has made the strawberry the most widely cultivated of all small fruits. It is grown in every state in the United States and about three-fourths of the states have reported carlot shipments.

Number, Kind and Time to Plant

About 8,300 plants are required to set an acre in the usual system of planting where spacing is 1.5x3.5 feet. Where runners do not set readily, a closer spacing is better.

Spring planting is best in Colorado and they should be set as early as plants are obtainable. Thrifty young plants (not over 1 year old) are best. The nearer home they are bought the better. By getting plants established quickly and keeping the soil mellow, runners will start early and it is early formed runners that count, as they yield many times more fruit than late-formed runners.

There is often more difference in quality between well and poorly kept beds of the same variety than exists between two different varieties. The best plan is to start with vigorous, young, locally grown plants and experiment with new varieties on a small scale. For “June-bearing” or “one-crop” berries, the Senator Dunlap and Premier are good varieties. Mastodon is the most widely grown everbearer. Some will not set fruit unless interplanted with another kind; but all such varieties are so labeled in the catalogs.

Soil, Rotation and Manuring

Strawberries are most profitable on the lighter soils; although, as they are shallow “feeders,” the soil should be well supplied with organic matter. Another essential is good active drainage. The “black-root” which has caused widespread losses in Colorado is probably caused, in part at least, by faulty drainage.

Soil should be weed-free and in the best possible condition to encourage early rooting of runners. For this reason it is best for strawberries to follow a cultivated crop. Sod-land is excellent in the rotation, but white grubs are likely to be troublesome
unless a cultivated crop is grown for at least one season after breaking out the sod.

Barn manure (10 to 30 tons per acre) applied to the cultivated crop preceding strawberries, avoids the weed problem. Chicken manure should be used more sparingly (1 to 10 tons per acre). When applied directly to the plants, there is less danger of burning them if one part of the chicken manure is first mixed with 2 to 3 parts of dry soil.

Too much as well as too little growth may reduce the yield. Unless there is reason to believe certain elements are lacking in the soil, manure is better than chemical fertilizers. The residues of phosphate and potash fertilizers may outlast the strawberry plants and the nitrogen content of soils fluctuates widely within a season as well as between seasons.

**Setting Plants and Early Care**

The important point in setting strawberry plants is depth of planting. The crown (point where the top and roots join) should be right at the level of the soil. If soil later washes over the crowns, uncover them promptly. As much damage is done if the crown stands too high as if it is too low.

Given the right soil and proper care, three things are necessary for high yields of strawberries: (1) A variety well adapted to the locality, (2) a good stand, (3) a high percentage of early rooted runners.

Remove flowers and any green fruits formed until plants are well established. With some beds this will mean that no fruits will be allowed to set all season, while if the plants are vigorous and become established rapidly, no harm is done by allowing some production late in the season.

Frequent shallow cultivation should follow planting. As the season advances, cultivations should be still shallower and always in the same direction (so that runners trailed into the rows will not be pulled into the middles again by cultivating in the opposite direction.)

**General Care**

The second and successive years, cultivation is better left till after picking unless weeds make it imperative. Ordinarily a part of the straw mulch left in the field makes cultivation unnecessary before harvesting.

After harvest the mulch should be removed and burned. Some growers also mow the old foliage and remove it with the mulch or burn them together on the field. Plants are likely to be damaged, however, if the fire burns very long.
Renewal

If plants and their runners are too thick, (i.e. closer than 5 or 6 inches) and if rows are more than 2 feet wide, it is best to thin and narrow them. Parent plants that have borne one crop and the early formed runners are the highest yielding plants.

Deep ditches between rows improve surface drainage when rainfall is heavy. Note pickers' trays and temporary shelter for fruit.

Many more runners form late than early but late-formed ones should be considered as weeds and therefore removed, since they draw heavily on the soil and yield little or nothing.

Strawberries seldom produce profitable crops for longer than 4 years, so arrangement for resetting in a new location should be made in advance.

Excellent care must be given after harvest, since the next year's fruit is formed in late summer and early fall. Fruit buds are visible to the unaided eye by mid-October.

Mulching

A winter mulch is usually applied to strawberries, even in the South. There are some things against it, but the advantages outweigh the disadvantages. Straw is most often used;
some growers even raise grain expressly for this purpose where
grain is not a staple crop. Wild grass and pine needles are also
used. The mulch is scattered over the entire bed (deep enough
to cover the plants) after ground is frozen. Four or five tons
of wheat straw will cover an acre. If there is any grain or weed
seed in the straw, spread it out and moisten it several weeks be­
fore it is needed. Seeds will then germinate or be shaken out be­
fore it is used for mulching.

In spring when active growth starts, the mulch is forked
off the tops of the plants but left between plants and between
rows, where it serves to keep fruit clean, conserve moisture, and
check weed growth.

The mulch delays early growth and is helpful in preventing
early bloom which is likely to be frosted. If plants are to be dug
for a new planting, remove the mulch earlier so plants will be
ready early.

**Irrigation**

More frequent irrigation is necessary with strawberries
than with most fruits because of the relatively shallow root
system and light soil.

During harvest, by watering only every second or third
middle, there will be dry ground for the pickers. Aside from
their discomfort, tramping wet soil packs it beyond repair by
cultivation.

**Harvesting**

Strawberries are usually marketed in quart boxes with 24
or more in a crate. Early berries are often sold in pints.

Pickers carry several boxes in a tray and are taught to
handle berries gently, leaving about a quarter inch of stem on
the fruit; to keep only a few berries in the hand at a time and to
put all cull fruit in a separate box.

Pickers must be carefully supervised. Most strawberries
are damaged by re-grading and so are marketed just as the
picker puts them into the box. Six pickers can usually take
care of an acre, going over it once every 1 to 3 days. Average
pay for pickers is one-fifth the sale price of the fruit. Assign­
ment of certain pickers to numbered rows, makes supervision
easier. A 2-foot row can be picked clean with little reaching
when a picker works both sides of it.

Berries that are fully colored but not soft, will stand a 12-
hour shipment. For a 24-hour shipment, they are picked one­
fourth red. Berries with green tips are culls even for distant
shipment.
Large trucks hauling berries in the cool of the night now supply "home-grown" berries to markets hundreds of miles away.

Half the row can be picked from each side without trampling plants or long reaching. Note remains of last winter's straw mulch.

Pests

Unlike trees and bush fruits in which the tops increase in size and live over several years—strawberries are renewed from the ground up every year. By removing and destroying the old mulch after harvest, the patch is rid of many pests. If only two crops are harvested and plants are then plowed under, other crops can occupy the land several years before it is again planted to strawberries. Insects and diseases seldom are very troublesome under such a system of rotation.

Strawberries as Weeds

Strange as it seems, strawberry plants often are weeds—even in a strawberry patch.

Good vigorous runners are several feet in length with new plants formed every few inches along them. Newly rooted young plants nearest the mother plant at the bases of the runners are the "first-set" or "early rooted" runners. A runner several feet long is simply a chain of new plants set at different
dates. Those near the end of the runner are barely rooted by fall when growth ceases.

In Colorado, fall is a poor time to set new plants, even though they are of good planting size. It stands to reason, then, that little can be expected of those late-set runner plants which are worthlessly small, and late-set besides. Of course, the very latest formed never get a foothold, and some that do are too weak to survive the winter. But, between this class of new plants and the early set ones, are many that are firmly rooted in mid-season but never productive of enough fruit to be worthy of their keep. All such plants are truly weeds, since they use space and plant food without returning worth while yields.

Some varieties are much more prolific plant makers than others, so that, desirable as they otherwise are, it is possible to have too many “early rooted” runners. For this reason varieties that produce few runners should be planted close, while prolific plant makers should be set farther apart than customary planting distances. Experience with a variety will soon teach a grower the best way to handle it on his land. Where there is less than 5 or 6 inches between plants in an established matted or spaced row, yields and quality are likely to suffer.

Thinning out young plants in the row is not commercially worthwhile as a rule. The best solution to this problem is to find another good variety which is a less prolific plant maker.