



UNIVERSITY OF IDAHO

College of Agriculture

STRAWBERRY GROWING in Idaho



Anton S. Horn

IDAHO Agricultural
Extension Service

Bulletin No. 440
Revised April 1975

Contents

Soils	3
Frost protection	3
Buying and handling plants	4
Setting the plants	5
Irrigation	5
Fertilization	5
Weed Control	6
Insect and disease control	6
Mulching	6
Harvesting and handling	7
Training systems	7
Varieties	10
How many plants?	13
Renewing the planting	13
Ornamental use	14
List of varieties:	
June-bearing or one-crop	15
Everbearing	18

Strawberry Growing In Idaho

Anton S. Horn

Ornamental and Fruit Specialist
Cooperative Extension Service

In home garden plantings, you may have little choice of location for the strawberry bed. A slope affording air drainage is preferred. Because the strawberry grows close to the ground, the blossoms may be killed by spring frosts when fruit trees on the same site escape damage. Spring frosts often reduce yields by killing blossoms or damaging young fruits. Later blooming varieties may escape a frost that would damage early blooming varieties. On south slopes, strawberries will bloom earlier and thus are more likely to be nipped by frost. However, the fruits that survive will ripen sooner. Frost damage is most likely to occur in low spots, valleys and at the bottoms of slopes.

Soils

Strawberries thrive on a wide range of soil types, but do best on deep, well-drained, loam soils. Avoid heavy clay soils. They are hard to work and plants grown in them suffer from root diseases and are short-lived. Sandy soils require more frequent watering and greater attention to organic matter content and fertility.

Avoid planting strawberries after tomatoes, potatoes, peppers, eggplant or other crops that can contaminate the soil with verticillium wilt disease.

Frost Protection

Late spring frosts often kill the first flowers that open. This is a serious loss because these early blooms produce the largest berries. Varieties with long fruit stalks that raise the blossoms above the foliage are especially susceptible to frost. When a light frost touches the point of the cone of pistils, it causes the berries to "button." Buttoning may also be caused by insects, dry weather and low nutrient level.

To prevent frost damage to blossoms and young fruit, cover the plants with a very light layer of mulch. Use enough straw to barely cover the plants. Running water down the irrigation rills will also aid in frost protection.

Turning on sprinkler systems when the temperature at ground level reaches 34°F will also protect strawberries from frost. Leave sprinklers running until the temperature rises above 32° F and the ice melts. Plants may be covered with ice, but if there is free water on the outside of the ice the heat released as the water freezes will keep the temperature of the plant tissues at approximately 32° F. There should be no injury to the plant.

Artificial heating is another means of frost protection, though it adds to the cost of production. An orchard heater that burns fuel oil is satisfactory. Choose a heater that is approved by air-pollution authorities. Many small heaters are more effective than a few large ones.

Buying and Handling Plants

Buy plants certified free of virus diseases, red-stele and other diseases. Be sure plants are free of cyclamen mite.

When you receive your strawberry plants, open the package immediately and examine the plants. The leaves should have a fresh, green appearance and there should be an abundance of light-colored, fleshy roots. If the plants have dry or blackened roots or appear otherwise weak and unhealthy, they are not worth planting and should be returned.

If the plants cannot be set soon after arrival, they can be stored for 2 or 3 weeks in a fairly damp cellar at a temperature of 30° to 40° F. Keep the roots moist, but not wet. Leave the tops exposed to the air. Do not wet them.

You can hold plants for longer periods. Cut the bundles and separate the plants and then plant them close together temporarily in moist sand or soil. The roots must be covered and the soil firmed around them. Plant them in shade or on the north side of a building.

Setting the Plants

Strawberries are generally planted in early spring. However, June planting is possible if dormant plants are dug in winter months, bundled in crates lined with polyethylene and stored at 30° F. Strawberry plants handled this way retain their bright green foliage and vigorous roots for as long as 10 months in cold storage.

Do not fall plant because of extra cost in keeping weeds out in late fall and early spring. Besides, you must still wait a year for a crop on one-crop or June-bearing varieties.

Plants do best when set out during cool, cloudy weather. Keep roots moist and plants shaded until they are set. Keep them out of the wind.

Use a spade for planting. Push the spade into the ground about 6 inches and move it back and forth to open the hole. Insert plant with roots spread fan-like and crown at right level. Set the plants in the ground so soil just covers the tops of roots. Withdraw spade without disturbing roots. Work soil against roots and press down firmly. Pour a cupful of water around each plant.

Irrigation

In irrigated areas, strawberries are generally planted in beds 4 to 8 inches above the irrigation furrows. Irrigate only enough to keep the plants in good vigor and to encourage early rooting of runners. During the fruiting period, irrigate every 4 to 6 days on light soil and every 7 to 10 days on heavy soil. Alternate rows may be irrigated after each picking so there will always be firm soil on one side of the row for the pickers. Post-harvest irrigation is not needed as often, but do not allow plants to suffer from lack of water. This may result in reduced yields the next year.

Fertilization

The soil may be built up by green manure crops and fertilizer before strawberries are planted. Barnyard manure may be applied at the rate of 10 to 20 tons per acre in the spring before the soil is worked. Commercial fertilizer — ammonium sulfate or its equivalent — may be applied at a rate of

200 to 400 pounds per acre when the soil is first prepared in the spring. In fruiting years (second and third growing seasons) a good plan is to split the nitrogen application, applying half as a side dressing soon after growth has begun in the spring but before bloom, and the other half as a side dressing about the first of August.

Excessive nitrogen produces heavy foliage, soft berries and an increase in fruit rot.

If alfalfa on your soils has benefited from applications of phosphate, or if a soil test indicates its need for field crops, then strawberries may benefit from phosphorus application. In that case, apply 200 to 300 pounds of superphosphate per acre in early spring.

Weed Control

Weed control is probably the biggest expense in growing strawberries. Unless you use chemicals, weed control will mean hoeing and cultivation. All hoeing and cultivation should be shallow to avoid damage to the roots. Hoe and cultivate when needed to control weeds.

Chemical weed-control measures change so rapidly they will not be discussed here. Contact your county Extension agricultural agent for the latest control recommendations.

Geese are used successfully by some growers to control chickweed, grasses and some other weeds. Generally 2 to 4 geese (preferably young) are used per acre. They will need a little feed and water to supplement their diet of weeds. They may eat some foliage and buds if not given supplemental food. Remove the geese before the berries start to ripen.

Insect and Disease Control

For information about these problems, contact the county Extension agricultural agent.

Mulching

Mulches are not considered necessary to protect strawberries from cold in southwestern Idaho. In the colder parts of the state strawberries will benefit from a mulch. Coarse hay or straw may be

placed over the entire planting when the ground begins to freeze. The mulch should be removed in the spring. The mulch may be raked between the rows to keep the berries clean, keep down weeds and conserve moisture. Black plastic film is sometimes used with the hill system.

Harvesting and Handling

Be careful in harvesting and handling strawberries. They are soft and highly perishable fruits. Pick only during the cooler hours of the day, and not while the berries are wet. Picking early keeps the berries firm and gets them to the packer in time to be packed in the day's run. For shipping, pick all the berries that are red on three-fourths or more of their surface. For local market or home use, pick berries that are colored completely. For fresh market, pick berries with caps or hulls on. Instruct pickers to break the stem without squeezing the berry. Assign each picker to a separate row. This makes it easier to supervise the crew and to single out poor pickers. Strawberries should be harvested every 2 or 3 days at the peak of the season in warm weather and at least every 4 or 5 days when the weather is cool.

Immediately after picking cool berries to 40° F or below and hold in this range in transit, in storage and during marketing.

You can store strawberries 5 to 7 days — no more — at 32° F with a relative humidity of 90 to 95%. After 7 days, the fruit loses some of its bright color, tends to shrivel and loses flavor. Berries taken out of storage deteriorate more rapidly than fresh-picked fruit.

For processing, pick the berries with the caps off. This is done by holding the stem and cap with the finger tips of one hand and pulling the berry off with a slight twist. Berries for processing should be picked only when they are ripe and at the peak of flavor.

Training Systems

In rich soil with ample water, most varieties produce a large number of runners in a single season. Production of runner plants will increase yields to a point, but too many runners will reduce

both yield and quality. The training system that gives the heaviest yields is one that allows the largest number of runners to root without serious crowding, as in the matted row system. The hill system, in which no runners are allowed to root, gives the lowest yield, but the best berries. The hedgerow system is a compromise where a small number of runners, carefully spaced, are allowed to root.

The Matted Row System

Set the plants in rows 36 to 42 inches apart, with the plants 18 to 30 inches apart in the row. Let the runners root at random, or space them 6 to 12 inches apart (Fig. 1A). The latter method — sometimes called the “spaced row” system — takes extra labor but will often pay in higher yields and better quality berries. When the row is filled with plants to a width of 12 to 15 inches, cut off all additional runners as they form.

Encourage early production of runners. Those rooted in June will produce 10 to 15 times as much fruit as runners rooted in October. Varieties low in runner production should be fertilized with nitrogen in the spring and irrigated, if possible, to increase the number of early runners.

The Hedgerow System

With rows 30 to 36 inches apart, space the plants 18 to 24 inches in the row. Allow only a small number of the first runners to root. Space these to form 1, 2 or 3 rows of plants (Fig. 1B). Yields per plant are greater than in the matted row system because stronger crowns are formed, but yield per acre is less because a smaller number of plants are allowed to root.

The Hill System

Set the plants 18 inches apart in rows 24 to 36 inches apart, or set them 24 to 30 inches apart each way for cross cultivation. Remove all runner plants as they form. This system yields large, high-quality berries, but total production is lower than with the other systems described. The hill system is best adapted to small-scale production of berries for home use where large yields are less important than high quality. It requires less hand-labor for weeding.

Training Systems

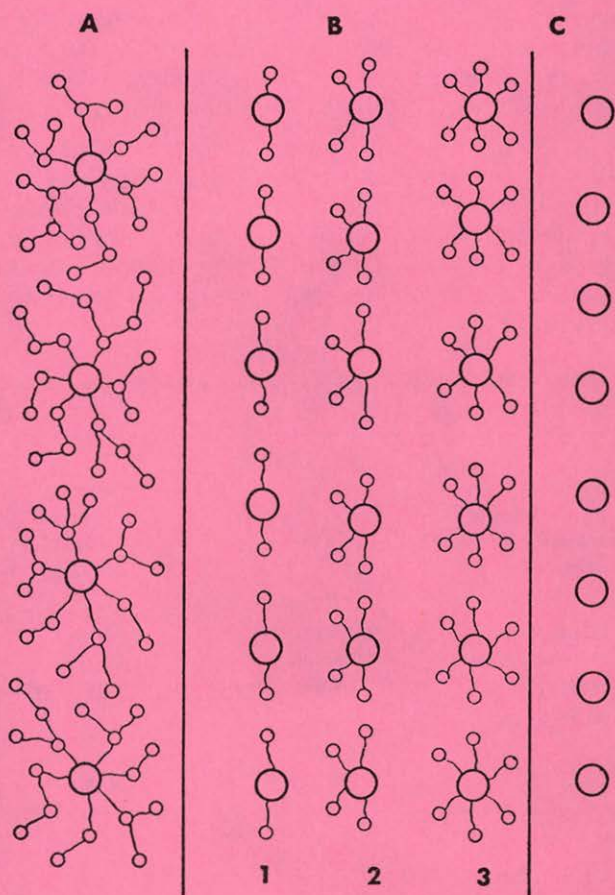


Fig. 1. Systems of training strawberry plants. Large circles represent mother plants, small circles the runner plants. System A is a matted row system with spaced plants. System B — different forms of hedgerow system, including (1) single hedgerow, (2) double hedgerow and (3) triple hedgerow. System C — hill system in which all runner plants are removed as they form.

Varieties

Selecting proper varieties for soil and climate conditions and market needs often makes the difference between success and failure for a strawberry venture. Planting an early, a midseason and a late variety will let you extend picking over as long a period as possible. The purpose of the variety is also important. Do you want berries for freezing, preserving or for the fresh market? A careful study of variety descriptions should help you select varieties best suited to your needs.

Climate, soil, site and cultural practices are among the factors affecting the ripening period of strawberries. Weather has a definite affect. For example, in cool weather a variety that is usually early may be late and the picking period longer. Varieties may be classified according to ripening season (Table 1).

Table 1. Partial list of early, mid-season and late strawberry varieties.

<u>Early varieties</u>		
Marshall		Fairland
Puget Beauty		Narcissa
Howard (Premier)		Early Dawn
Midway		Pocahontas
<u>Mid-season</u>		
Hood	Siletz	Tioga
Northwest	Catskill	Raritan
Shasta	Fairfax	Red Chief
Midway		
<u>Late</u>		
Columbia	Robinson	Shuksan

June-Bearing or One-Crop Types

June-bearing varieties produce their first crop the year after planting. All of these varieties are self-fruitful and will produce when planted alone. To extend the picking season, plant several varieties that ripen at different times.

Remove blossom clusters from these plants as soon as they appear the first year. Do not allow them to set fruit the first season. All the vigor produced in the first year is best directed toward making a strong mother plant and numerous runner plants that will produce more berries in succeeding years.

Everbearing Types

The everbearing varieties — also called fall-bearers — differ from the June-bearing varieties in one distinctive way: they form fruit buds all through the long, hot days of summer. Because of this, the everbearers fruit almost continuously throughout the summer and fall instead of maturing their entire crop in 3 or 4 weeks during May and June.

Everbearers produce fewer runners than June-bearing varieties. The highest yields are obtained when the hill system is used and plants are set 12 inches apart on the square. Prune the runners to stimulate formation of branch crowns. This causes the food made by the leaves to be channeled to the crowns.

Everbearing plants may be spaced 1 foot apart in beds of 3 rows spaced 4 feet between centers. This allows about 2 feet between the beds. Plants may be staggered (Fig. 2). Four-row beds may also be used.

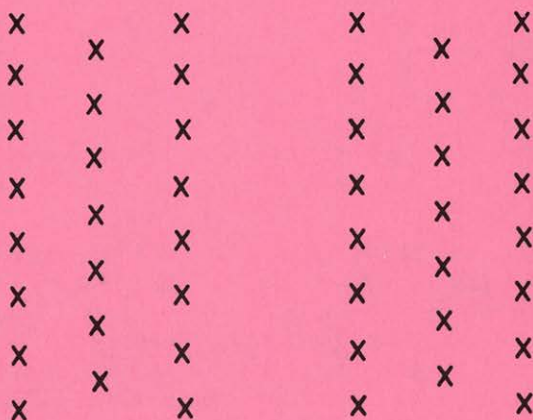


Fig. 2. A 3-row bed planting system for everbearing strawberries.

A modified 3-row bed system may also be used. Plant single rows 4 feet apart with 1 foot spacing between plants. Then train the first and second runners produced from each plant to form rows on each side of the original row of parent plants (Fig. 3). With this system, fewer plants are needed than for the 3-row plantings of spring-planted plants. However, first year yields will be lower.

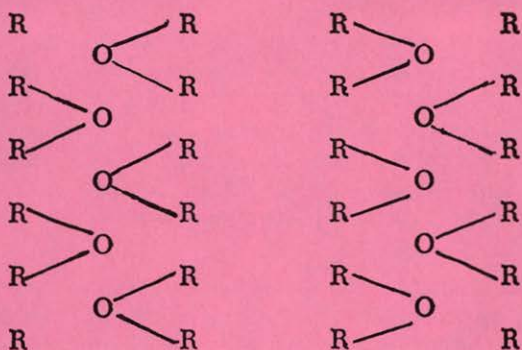


Fig. 3. Modified 3-row bed planting system. The circles represent the mother plants; R — the first and second runner plants formed.

Remove all flowers from everbearers until the middle of July the first season to enable the plants to build a strong crown for fall fruiting. It takes 5 or 6 weeks for flower buds to develop into mature fruits, so those buds that appear after mid-July should start to ripen in late August and September.

Everbearers generally produce their best crop in the fall of the year they are planted. A spring and fall crop will be obtained the second year. It is generally best to destroy the planting after the second fall crop because yields will decrease.

Everbearers are not recommended for large commercial plantings because growing and harvesting costs are greater. Cultural requirements are more exacting than for June-bearers. They may be grown in the home garden and on a limited scale for local sales to nearby cities. They prefer a richer soil than June-bearers.

Everbearing varieties that runner freely can be trained on trellises and fences as climbing strawberries. Since the runner plants are all fed from the root system of the parent plant, yields will be lower and berries smaller. A strawberry pyramid may also be used where space is at a premium.

A sawdust mulch during the summer may be used to keep down weeds, conserve moisture and keep berries clean. Other mulching materials include straw and polyethylene. Everbearers should always be mulched during the winter period.

How Many Plants?

You can determine the number of plants you will need by dividing the space required per plant into the total areas of the planting. To determine plants per acre, divide square feet per plant into total square feet per acre, 43,560 (as in Table 2).

Table 2. Number of strawberry plants needed per acre at different planting spacings.

Space between rows (inches)	Space between plants in rows (inches)	Number plants needed per acre
24	18	14,520
24	24	10,890
30	18	11,616
30	30	6,970
36	18	9,680
36	24	7,591
36	30	5,808
36	36	4,840
42	18	8,296
42	24	6,223
42	30	4,986
42	36	4,149

Renewing the Planting

Strawberries usually produce most heavily the second year. After that, yields generally drop sharply. Cost of operation increases because of weed, disease and insect buildup and crowding of runners. This raises the question of how long it will be profitable to keep a planting.

Growers in many commercial strawberry districts destroy their plantings after a single year of fruiting. Growers in other areas keep them for 2 or 3 successive crops. Under most Idaho conditions, a 2-year period of fruiting is generally most profitable.

If the planting is to be kept for more than one fruiting year, plan some form of renewal as soon as a crop is harvested. Destroy the less productive plants, keep the better ones and eliminate competition from excess runners. Fertilize the planting with nitrogen and cultivate and weed thoroughly.

With the matted row system there are two common methods of renewal. One is to plow out all plants from the middle and one side of each row, leaving the plants on the opposite side for fruiting the next year. The second method is to narrow the row from both sides, leaving a 5-inch strip of plants in the center.

With other training systems, any method of renewal that will save the most vigorous, well-rooted plants and reduce crowding of runners will help to increase the yield and improve the quality of berries the next year.

Ornamental Use

Strawberries may be planted for ground cover as well as for berries. A variety that runners freely would be best to use because it would cover the area quickly.

Baron Solemacher produces plants and berries from seed and is often used as a ground cover or edging to a flower border. Plants are small and compact and the fruit is twice the size of wild strawberries. The berries have a wild flavor and aroma. Seed is available from seed companies and garden stores.

While you can train any variety that produces a lot of runners to climb strings and other supports, the variety generally sold for this purpose is **Son-jana**. Developed in Germany in 1958, fruit size is medium, skin red, flesh whitish, aroma very good. It is a good keeper. It produces vigorous runners which may be trained on a support. When grown as a climber, fruit size is smaller.



June-Bearing or One-Crop Varieties

MARSHALL (Banner, Oregon), Massachusetts, 1890 — Round-conic to conic in shape. Crimson color with a good red internal color. Mildly subacid. Midseason harvest. Excellent dessert berry, also used for freezing and canning and preferred by ice cream industry. Runners freely. Many plants are infected with virus, so buy certified virus-free stock. Foliage is susceptible to leaf spots. Does well on a wide range of soils. It blooms and ripens about a week earlier than Northwest.

NORTHWEST, Washington, 1941 — Long blunt conic. Good red berry color throughout. Subacid. Late season harvest. Blooms and ripens a week after Marshall, so it will escape frost some years when Marshall will not. Outyields Marshall. Adapted to matted row or hill system of planting. Good dessert and preserving berry. Somewhat resistant to viruses. Susceptible to cyclamen mites, red-stele and root rots. Prefers medium-light, well-drained, irrigated soil.

SHASTA, California, 1945 — Round, very large berries. Midseason harvest. Flavor is fair. Sometimes leaves a hollow core when cap is removed. Light red skin, pale flesh and yellow seeds. Mild subacid. Runners freely. Tolerant of virus diseases. Bears from April to November in California but has only one crop in Idaho. Foliage is subject to leaf spots. Processing quality not high. A fresh market berry.

SILETZ, Oregon, 1947 — Blunt-conic, dark red with good internal red berry color. Runners freely. Plants are hardier than Northwest. Core pulls out when picked ripe. Red-stele resistant and somewhat tolerant of virus. Very productive. Winder hardy. Midseason, ripens with Northwest. This variety has proved to be very good in the Sandpoint area.

PUGET BEAUTY, Washington, 1956 — Medium-large to large berries, mostly long-conic and slightly necked, easily picked, medium red, glossy, fairly firm. Sweet and aromatic when fresh. Pick frequently to avoid over-ripe fruit. Excellent for fresh use and preserves. Not high yielder, but quality so good it brings 2 cents a cup more than Northwest on fresh market. It blooms after Marshall but ripens at same time. Adapted to moderate heavy soils with or without irrigation.

COLUMBIA, Washington, 1961 — Irregularly conic, bright red with good size. Has a large hull or calyx that makes picking for processing fairly easy and adds to appearance of fresh market berries. Surface of ripe berries soft and easily bruised. Special care needed in harvesting and handling for fresh market. Good freezer. Resistant to red-stele disease, mildew and fruit rot. Needs good soil moisture to hold size to end of harvest. A late season variety that blooms and ripens 5 to 7 days after Northwest. Hardier than Northwest.

June-Bearing or One-Crop Varieties

MIDWAY, USDA and Maryland, 1960 — Medium-long, conic, bright red in color. Medium-large and firm fleshed. Flavor subacid, tough skin. Suitable for freezing, excellent for fresh market. Productive on fertile soil; not good on sandy soils; irrigation essential for satisfactory yields. Has outyielded Robinson and Howard in tests in the East. Larger than Howard but not as large as Robinson. Ripens about two days after Howard. Does well under Boise Valley conditions.

HOWARD (Howard 17, Premier, Polar Queen, Golden Bell), Massachusetts, 1918 — Conic, large berries. Poor freezer. Subacid. Fair in quality. Early. Long season. Productive. Runners freely. Both skin and flesh are red.

CATSKILL, New York, 1933 — Roundish-wedge and somewhat irregular berries, large and bright medium red. Fairly firm, good quality. High in vitamin C. Good for freezing. Midseason.

FAIRLAND, Maryland, 1936 — Wedge-conic to blunt wedge-conic. Berries large. A red-stele resistant variety that yields high. Glossy medium red, tough skin, good quality.

ROBINSON (Kardinal King, Scarlet Beauty), Michigan, 1932 — Very conic, conic to wedge-conic, furrowed and green tipped. A heavy yielder of large attractive berries. The skin bruises and the berries are of fair quality. Not adapted to freezing. Late.

FAIRFAX (Grandview, Cummerbund), USDA, 1923 — Roundish wedge-conical, large, dark but firm if not over-ripe, sweet and of good quality. Good for home garden. Midseason. Grown to a large extent in northern Idaho.

NARCISSA, USDA, 1923 — Berries attractive and early for local market. Grown to some extent in northern Idaho.

DORSETT, USDA, 1923 — High-yielding red berry with fine dessert quality that does equally well in northern and southern Idaho. Cap does not come off in picking.

EARLIDAWN, USDA, 1956 — Large conic, somewhat irregular berry, large medium firm. Fair dessert quality, very early. Bright light red skin, bright red flesh. Plants blossom early and are blossom hardy but still susceptible to late spring frosts. Often escapes frost because its short flower stems are well covered by leaves. Productive, makes fewer runners than most varieties. An early fresh market variety, good for freezing. Ripens about 5 days before Howard. Harvest season is short. Very susceptible to verticillium wilt so should not be planted in soils where tomatoes or potatoes have grown. Need site with good air drainage.

June-Bearing or One-Crop Varieties

POCAHONTAS, Maryland, 1946 — Large and blunt-conic, skin bright medium red and red flesh. Subacid. Dessert quality good. Good freezer. High yielder. Vigorous and makes runners freely. Early.

TIOGA, California, 1963 — Long, conical berry with tendency toward wedginess. Calyx separates easily from fruit on picking. Larger than Shasta. Highly susceptible to verticillium. Midseason but ripens with or just ahead of Northwest, before Shasta. Not a good processor.

RARITAN, New Jersey, 1968 — Glossy, bright shiny red with yellow achenes and large calyx that stays green. Firm flesh. Internal fruit color acceptable for fresh market but not rated good enough for processing. Large attractive fruit. High yielder. Midseason, has an extended harvest period which is considered a drawback. Worthy of trial.

REDCHIEF, USDA and Maryland, 1968 — Late mid-season. Resistant to red-stele disease. Berries medium size with firm glossy skin, firm flesh, uniform deep red color, subacid flavor and good dessert quality. Has not been tested in Idaho.

SHUKSAN, Washington, 1970 — Bright red, glossy, firm berries rated superior in flavor, appearance and texture. Slightly larger, darker and firmer than Northwest. Cap does not separate readily from fruits. Vigorous and productive. First fruits often wedge-shaped. Later fruits conic and smooth. Hardy. Midseason to late. Ripens 2 to 5 days later than Northwest. Runners freely. Does well in Buhl, Idaho.

TOTEM, Canada Department of Agriculture, 1971 — Fruit ripens earlier than Northwest and its cap is easily removed. Fruit large and attractive. Hardy. Is worthy of trial.

RAINIER, Washington, 1972 — Berries large with smooth, wedge-conic shaped primary fruits and conic, later ripening fruits. Bright red skin with slightly sunken yellow seeds. Internal color is bright red. Cap is difficult to remove. Ripen 2 to 3 days later than Northwest. Moderately hardy, hardier than Northwest, but not as hardy as Shuksan. Good for fresh market and has good shelf life. Excellent for freezing and preserves. Worthy of trial.

OLYMPUS, Washington, 1974 — A high producer and adapted to mechanical harvesting. Good freezer. Worthy of trial.

HOLIDAY, New York, 1973 — Early, large size, medium red, glossy, and firm. Easy to pick. Should be adapted to mechanical harvesting. Worthy of trial.

Everbearing Varieties

GEM (Superfection, Gem Everbearing, Giant Gem, and Brilliant), Michigan, 1933 — Plants vigorous, making many runners, large, light red, tart and fairly firm. Good to eat with plenty of sugar and cream. High in vitamin C content.

ARAPAHOE, Wyoming, 1954 — Berries medium size and good red internal color. Subacid. Fine flavor and good dessert quality. Vigorous and good runner production for an everbearer. Extremely hardy.

RED RICH (Red-glo, Hagerstrom's Everbearing), Minnesota, 1949 — Berry shape irregular and short-conic, subacid, excellent flavor; flesh red, firm, good for freezing. Hardy. Good runner formation. Productive.

TWENTIETH CENTURY (Utah Centennial), Utah, 1932 — A high-yielding variety for Idaho, especially southern Idaho. Berries are bright red, high-flavored. Yields heavily and runners freely. Resembles Rockhill. Good shipper.

OZARK BEAUTY, Arkansas, 1955 — Large, wedge-shaped berry, bright red color with prominent yellow seeds. Vigorous and productive. Hardy. High yielder. Flavor mild, sweet. Prolific plant maker. Blooms late. Some plants develop June yellows and those plants should be removed.

ROCKHILL (Wayzata), Iowa, 1918 — Berry irregular-conic to short wedge, medium in firmness. Large size, attractive appearance and excellent flavor. Skin bright red, flesh is light red. Plants make few runners so must be propagated by crown divisions.

OGALLALA, USDA and Nebraska, 1958 — Berries deep red throughout and excellent flavor, does well in eastern Idaho, overripe berries develop off flavor in hot weather. Hardy, yields high. Flesh bright red. Processes well.

GENEVA, New York, 1961 — Fruit large, dark red, superior in quality to Gem, tender, ripens mid-season with lull period before recropping in the fall. Runner production satisfactory. Hill culture preferred. For home gardens and local use.

STREAMLINER, Oregon, 1944 — Larger and sweeter than Gem. Fruit firm, hardy, heavy spring cropper, runners freely.

LEE TEAGUE, seedling of Red Rich developed at Logan, Iowa — Berry shape oval, dark red, excellent flavor. Plants are vigorous.

EVERMORE, Minnesota, 1945 — Good-quality. Productive, hardy and drought resistant.

QUINAULT, Washington, 1967 — Fruit very large, conic. Skin attractive, flesh soft color and flavor good. Produces moderate crop in June, more in July through September. Good runner production.

Everbearing Varieties

NESQUALLY, Washington, 1967 — Looks good in southwestern Idaho. Heavy yielder, berries large to medium small. Flavor is slightly tart, flesh light red. Some plants have June yellows. Rogue out the yellow-leaved plants and replace with runner plants from healthy green plants. Should not plant in the cool moist areas of the state.

FORT LARAMI, USDA, 1974 — Berries are large, bright scarlet red, and firm fleshed in areas of cool nights. Very hardy and well adapted at Cheyenne, Wyo. We are testing this variety at McCall, Idaho. It appears to be worthy of trial in our high altitude areas.

Issued in furtherance of cooperative extension work in agriculture and home economics, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, James L. Graves, Director of Cooperative Extension Service, University of Idaho, Moscow, Idaho 83843. We offer our programs and facilities to all people without regard to race, creed, color, sex or national origin.