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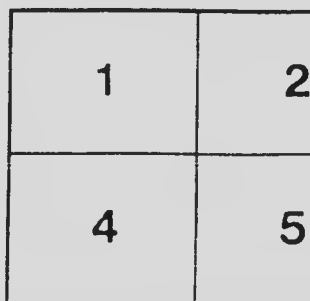
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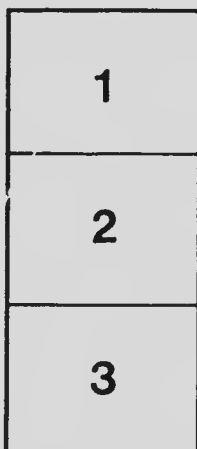
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HARDY BUSH FRUITS FOR THE WESTERN FARMSTEAD

HOW TO GROW RASPBERRIES, CURRANTS AND GOOSEBERRIES

BY

S. A. BJARNASON, B.A., B.S.A.,

Assistant in Horticulture.

Small fruits have many advantages which should recommend them to every farmer. They are perfectly hardy; they need a minimum amount of care; they are productive; they ripen before any other fruit is on the market and the season lasts a long while.

For adding to the home-like aspect of the farmstead, these fruit-bearing shrubs are unrivalled. They are a source of pleasure and gratification to the farmer, and furnish the boys and girls with many interesting problems in horticulture and nature study. The housewife knows their value as an addition to her larder.

RASPBERRY CULTURE.

The raspberry is the most popular small fruit that we have and should be more widely cultivated. Our cultivated kinds have originated from the wild species that we find in great abundance in the bush country throughout this continent. Who does not remember the sunny July afternoons, and the scramble for wild fruit in the nearest grove?

Soil and Location.—Raspberry patches, as well as other cultivated fruits, should be well sheltered on the north and west if possible. Rich well-drained loam is the best soil for red raspberries. The purple and black-cap raspberries need a lighter soil—sandy loam is good. Clay loam is too cold for them.

Propagation.—Most red raspberries propagate by "suckers" from the root. These can be dug up and planted about four inches deep in September of the same year. Cut back to the ground when planting. A covering of straw is good for the winter. The black-caps propagate by tip-layers, i.e., the long, slender canes bend over and the tips take root. A shovelful of earth should be thrown on the tip to help it in rooting. In the fall the new plant is cut away from the parent, with a foot or so of the old cane standing up. A cover of straw is good for the winter. These are planted in the spring about two inches deep.

Planting.—A "continuous row" with plants set out three feet apart is the best for black-caps. The rows should be eight feet apart. For the reds, the checked hill system is the best, where the plants are set out six feet apart each way. Both methods may be used interchangeably. The first gives better protection against wind, less work in staking and trellising, less evaporation from the soil, less work in covering for winter and more plants per acre. The latter method gives stronger canes, better fruit, more easily picked, less danger from disease and more opportunity for thorough weeding with one-horse cultivator.

DOMINION EXPERIMENTAL FARMS.

J. H. GRISDALE, B.Agr.,

Director.

W. C. McKILLICAN, B.S.A.,

Superintendent Brandon Experimental Farm.

EXHIBITION CIRCULAR No. 73.

(January, 1916.)

Cultivation.—Soil must be loose and free from weeds and grass. "Spare the cultivator and spoil the crop." The numerous raspberry suckers are themselves a serious weed.

Pruning.—Last year's canes bear the fruit. After the crop is gathered, cut out all the old canes and leave a similar number of young healthy canes for next year. In the established raspberry patch there should be about six canes to the hill, or one to every four inches in the continuous row. For western conditions this is about all the pruning that red raspberries require. Black-caps may be cut back in the spring to about 2½ feet. It is also well to pinch back the young shoots in early summer to encourage the growth of laterals.

Trellising and Staking.—Drive a good stake upright into each hill. Tie the bush around loosely with twine and string. For the continuous row, drive in posts and stretch a wire along the row, tying the canes to this wire with string or raffia. Two wires, eighteen inches apart, may be stretched one on each side of the bush and fastened on cross-pieces nailed on the posts. The wires should be just high enough to catch the canes at the point where branching begins. No tying is needed for this method. The wires and all the posts (except the end ones) are removed each fall.

Harvesting and Yield.—Pick fruit after it has coloured well but before it is ripe. Allow to ripen in a cool place in the trays. Picking on very hot days or when the fruit is wet spoils it for keeping or shipping. The yield varies very much according to conditions, but a very conservative estimate may be placed at 2,400 pounds or 75 bushels per acre. Red raspberries in the test rows at the Central Experimental Farm, Ottawa, have been known to yield 10,234 pounds per acre.

Winter Protection.—It is safest to cover the canes with soil each fall. Dig out a forkful on one side of the root (preferably the north side) and push the bush over without breaking the canes. Lay the canes down parallel and throw soil on the tips to hold them down, then cover with three or four inches of soil. Two men should work together. This should be done when warm days occur in the fall, and before the canes freeze too hard. In the spring before warm weather sets in the canes can be lifted with a fork and straightened up previous to the first cultivation.

Insects and Diseases.—The commonest insect enemy is the *red spider*. This is a minute insect which covers the lower side of the leaf with a greyish web and sucks the juice out of the leaves until they are brown and withered. Tens of thousands of insects are found on every plant, but they are scarcely visible to the naked eye. Remedy: Spray the underside of the leaves thoroughly with tobacco solution or kerosene emulsion, or dust well with flower of sulphur when the leaves are wet. Sulphur is an effective remedy against all kinds of mites.

Anthraxnose or Cane Rust.—This is a fungous disease which affects the canes. Purple spots, which later spread out and become white with purple edges, are seen on the canes. Where this disease is found, the patch should be cut off close to the ground and burned. The new canes which come up should be kept well sprayed with Bordeaux mixture or lime-sulphur mixture.

Varieties to plant—

Red.—Sunbeam, Herbert, Tronchad, Turner, Miller, King, Loudon, Minnetonka, Cutlbert.

Yellow.—Carolina, Golden Queen.

Purple.—Columbian.

Black-caps.—Older, Gregg, Schaffer Colossal.

CURRANTS.

The wild currant is found all over the West thriving in all kinds of locations. Under cultivation this, perhaps, is the hardiest fruit-bearing plant that is found in the West. On account of its great hardiness, this fruit will grow and mature in northern districts where no other kind of fruit can be induced to thrive.

Being hardy, the currant is comparatively easy to cultivate, but, even then, there is the right way which gives the very best results, and the wrong way which may lead to complete failure.

The chief types under cultivation are red, black and white currants.

Soil and Location.—Heavy clay loam, well drained, cool and moist, preferably in a partly shaded position or with a northern exposure, constitutes almost ideal conditions for the currant. The bushes are shallow rooted and will not do well in a very dry, warm, sandy soil. If the soil is not rich in plant food, work in good well rotted manure.

Propagation.—(1) By cuttings, made in late summer from the season's growth and planted at once four inches apart in rows three feet apart. The cuttings should be eight to ten inches long, and should be planted so as to leave only one or two buds exposed.

(2) Layering. Bend a stem over until it touches the ground and cover with soil, leaving tip exposed. If this is done in midsummer, the new plant may be separated and planted in nursery row in the fall, as described for cuttings.

Planting.—Plenty of space is good for the plants, as it induces better growth and more fruit. A good distance is six feet each way in the hill system and four feet apart in rows six feet apart for the continuous row. Strong one-year-old plants are the best, but two-year-old ones are better than weak yearlings. The plant should be set at least an inch deeper than it stood in the nursery row. Where early spring planting is not possible it is better to plant in the fall, as the sprouts start early in the spring.

Cultivation.—The cultivation should be shallow, on account of the shallow root system. Frequent cultivation is essential to keep up the dust mulch and prevent evaporation of moisture, as well as to keep down grass and weeds. In a very clean orchard where there is no danger of weeds, a mulch of straw, sawdust, etc., may be employed to conserve the moisture.

Pruning.—A currant bush should consist of six or eight stems, forming a fairly open (but not straggly) bush. No wood older than four years should be kept, but each year a couple of old canes should be removed and an equal number of young ones left to take their places. Red and white currants bear most of the fruit on two or three-year-old wood. Black currants are dependent on the one-year-old wood for most of the fruit. Pruning should be governed by these facts. Many authorities recommend fall pruning, while others prefer the spring about the time that the leaves are out. Pinching back rapidly growing shoots in early summer induces bushy growth and permits a better development of the fruit. If the old wood is gradually removed year by year, the bushes are kept vigorous and prolific for many years.

Yield.—The fruit ripens during the latter part of July. A yield of 100 bushels or 4,000 pounds per acre is not by any means considered a "bumper crop," while 15 bushels is an average. The red currants are perhaps better yielders on an average than the black or the white. A half-dozen plants should produce enough to supply the average household.

Winter Protection.—Being entirely hardy, currants do not need any winter protection other than that which is afforded by the shelter-belts around the orchard and the blanket of snow which lies on the western prairie all winter. If the season is dry or if the soil is getting poor, it is well to apply a mulch of good manure around the bushes in the fall and work this into the ground in the spring without injuring the roots of the plants.

Varieties to use—

White Currants—Large White, White Grape and White Cherry.

Red Currants—Red Cross, Cumberland Red, Victoria, Rankin Red, Red Dutch, Red Grape, Cherry, Wilder, Greenfield Red, Ruby Castle, London Market.

Black Currants—Magnus, Buddenborg, Kerry, Saunders, Eclipse, Collins Prolific, Topsy, Climax, Naples, Crandall.

GOOSEBERRIES.

The gooseberry, picked green, is a very popular fruit for sauce, pies and for canning. In its ripe state it is often used for making jams. As a consequence it is receiving more attention every year, and it is certainly entitled to a prominent place in the farmer's small-fruit orchard. Our cultivated varieties are derived from the native species (*Ribes oxycanthoides*) and from European varieties (i.e., *Ribes grosularia*). The European strains are more prolific but are not so resistant to some diseases as the hardy white sorts. Gooseberries require the same treatment as currants, with the following modifications:—

Propagation.—In addition to the method of propagating by cuttings, a good way with gooseberries is to prune severely in the fall the bushes intended for this purpose. This will give plenty of new growth in the spring. In July of the current season, mound up the bush with soil right up to the tips of the young shoots. Pack the soil in well, but leave a loose dust mulch on the outside of the mound. It takes two years for the European varieties to form good roots, but the native kinds make good roots the first year. The young plants are treated similar to currants, being left in the nursery row for one year before they are put in a permanent location.

Pruning.—Severe pruning is necessary to get a well balanced bush, and to keep the branches from trailing on the ground. For the West, spring pruning (after the leaves appear) will likely succeed best, for in spite of its hardiness, the gooseberry is killed back sometimes during the winter, and the spring pruning will then supplement the work done by Jack Frost.

Winter Protection.—It is safer to cover the bushes with straw or other light mulch in winter. In well sheltered locations this may not be necessary, but a cover of straw will, in any case, protect the bushes from direct sun and wind during the winter months.

Insect Enemies and Diseases.—One of the worst enemies of currants and gooseberries is the **Currant Worm**. It is the larva of a sawfly which lays its eggs on the underside of the leaves. The worm is black spotted, dark green in colour, and injures the plant by devouring the leaves. The first attack comes, as a rule, early in June, and a second attack generally comes when the fruit is ripening. It is very important to destroy this pest at once by spraying with Paris green. White hellebore is a safer poison to use on the bushes if the fruit is getting ripe.

Currant Aphis. This has been a serious pest in the West and has been instrumental in reducing the crop very much. These plant lice infest the lower side of the leaves in great numbers, causing the upper side to blister and assume a reddish-brown look. Eventually the leaf withers and dies. A forcible, fine spray of kerosene emulsion or whale oil soap solution applied to the underside of the leaves will suffocate the aphis. This operation will have to be repeated several times if the attack is bad.

Mildew.—This is a serious fungous disease on both currants and gooseberries. The foliage becomes covered with a white mould, dries up, falls off and the wood consequently fails to mature. Bordeaux mixture or ammoniacal copper carbonate are good spraying mixtures.

Varieties to use—

Gooseberries—Houghton, Downing, Carrie.



