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BRUSSELS SPROUTS

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By A. G. B. Bouquet

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## BRUSSELS SPROUTS

by

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This vegetable, a member of the cabbage family, is important in northwest states not only because of its use by local markets but also because it figures prominently in the national frozen pack of vegetables.

Brussels sprouts were first quoted in the 1937 statistics of frozen foods with Oregon and Washington\* packing 188,780 pounds out of a national pack of 238,780 pounds. In 1941 Oregon-Washington packed 70% of the nation's output of 1,867,627 pounds. In 1942 the northwest pack was about 20% of the national frozen pack of approximately 3-3/4 million pounds.

The name "Brussels" originated from the city of Brussels, Belgium, where sprouts were grown during the early days of gardening. There is little mention of their cultivation in Europe before about 1800 although they were probably cultivated there long before that time. Thorburn listed one variety in America in 1828. The sprouts themselves are small buds or heads, round or oval-round in form, which grow in the axils of the leaves. As the plant makes its vertical growth, the sprouts develop successively upward on the stem, those at the lower part of the plant developing before those toward the upper portion.

The vegetable is of particular value because of its adaptability to the fall and winter season and its hardiness to cold weather. The plant will withstand lower temperatures than almost any other member of the cabbage family. It is widely grown to advantage, however, in coastal areas where winters are comparatively mild and largely frost-free.

The sprouts or solid miniature heads have an individually pleasing flavor serving as a variation of food from cabbage, cauliflower and sprouting broccoli.

Brussels sprouts are moderately high in vitamins A, B and C as well as iron.

Soils and Fertilizers. Brussels sprouts will grow satisfactorily in any well-drained soil of reasonably good fertility and structure. A soil that will produce good late cabbage or cauliflower will grow a satisfactory crop of sprouts. Inasmuch as the crop is harvested through the fall and winter it is desirable to have a well-drained soil.

Fertilizers for this crop consist of stable manure, cover crops and often-times a complete commercial fertilizer. One of the main considerations in fertilizing land for sprouts is to avoid having the soil too rich in nitrogen which might inhibit a solid formation of the sprouts, and yet there must be a sufficiently

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\* Frozen pack not segregated for the two states.

vigorous growth of the plants so that they can develop good-sized sprouts. The crop requires a fairly high content of potash for the best development and good solidity of the buds. When the sprouts grow loose and leafy, this condition is probably caused by either (1) an excess of nitrogen in the plant, (2) an inferior seed strain or (3) a lack of boron in the soil.

The commercial fertilizer should be a "complete" with a possible ratio of 1-2-2 or 1-3-3, such as in a fertilizer with an analysis of 5-10-10, 3-10-10 or 4-12-12. A good cover crop, turned under in the spring, together with 500 to 1000 pounds or more of a complete fertilizer should provide a well-balanced fertilizer for the crop. Borax should be added, also, as a means of preventing a breakdown and cankerous condition of the sprouts. Twenty pounds or so of commercial borax mixed with the complete fertilizer has given excellent control of boron deficiency symptoms in Brussels sprouts.

Soils for the growing of "sprouts" should be within a pH range of preferably 6.0 to 7.0.

Plant Growing. Brussels sprouts plants are grown in outdoor seedbeds in a manner similar to those for late cabbage, cauliflower or kale, the seed being sown thinly in rows about 24 inches apart. Planting twenty-five to thirty seeds per foot in the row is about right, sown in May. There are comparatively few varieties of sprouts and these may again vary according to different strains of the named varieties. Long Island Improved is widely grown and there are also individually selected strains which are given names by the grower or seedsman. Some strains are said to be more resistant to cold weather as well as to aphid injury. It is important to plant seed from individually selected plants showing a uniform solidity of sprouts.

Plants will require attention in the seedbed, mainly protection from injury by aphids, flea beetles, green cabbage worms and possibly cabbage maggots. (See Oregon Extension Bulletin 551 - Vegetable Insect Pest Control Program.)

Transplanting to the field is usually done in July and August - some seven or eight weeks after seeding. Plants should not be succulent and tender when ready to be dug but will have been slightly toughened by warm, dry weather and a decreased amount of soil moisture in the plant beds. Advantage should be taken, if possible, of a few cloudy days to get plants set out in the field. Plants require spacings of 24 inches in the row and 36 inches between the rows.

Maintenance. Three important things in the care of Brussels sprouts plants during the summer and fall include (1) soil cultivation to control weeds, (2) application, if possible, of irrigation water, and (3) the control of insects, mainly aphids. Due to the savoyed type of leaf of the plant and of the small buds, aphids often lie hidden and protected, particularly on the undersides of the leaves. It is desirable to treat the plants early to forestall aphid infestations by dusting or spraying with nicotine compounds. Repetitions of dusting or spraying will be necessary to maintain clean plants. It is particularly necessary to direct the controlling material on the undersides of the leaves and on the small, developing sprouts.

Thrips may sometimes be injurious during dry weather toward the latter part of the summer. It is unwise to grow sprouts near an onion field in which it is quite likely thrips may be present and from which they will migrate to the sprouts plants after the onions have been pulled for curing.

Harvesting and Preparation for Market. Brussels sprouts are first harvested when the buds at the lower part of the plant are solid. They are broken off at the juncture of the main stem on which they are borne. The leaf of the plant below the bud is usually ready to fall off about the time that the sprout itself is solid. The upper sprouts of the plants will develop later during the harvesting season.

Sprouts should be trimmed of any yellow outside leaves or those affected by aphids. These should be peeled off so that the sprout is clean with no loose outer leaves. The market demands are for clean, light green, solid buds.

Oregon State Department of Agriculture Standards for Brussels sprouts require that grade "Oregon No. 1" shall consist of sprouts that are green, solid, well trimmed, which are not soft, withered or discolored; which are free from soft rot and damage caused by freezing, disease, insects or mechanical or other means.

The minimum size shall be not less than 3/4-inch in diameter.

For further details concerning these standards address the State Department of Agriculture, Salem, Oregon.

Packages used for marketing Brussels sprouts consist of a 12-basket (12 oz.) carrier and a small flat box holding 15 pounds net.

The harvesting season for sprouts lasts from mid-October to well into the winter season, sometimes as late as March, depending on weather conditions.

Valuations of sprouts per 12-basket carrier are now about \$2.25-\$2.50. In December 1941 they were quoted at \$.90 to \$1.00. Sprouts per ton, as sold to processing factories, are worth about \$150 to the grower.

Yields of sprouts average about two tons per acre.