Brussels Sprouts Production

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BRUSSELS SPROUTS (*Brassica oleracea var. gemmifera*)

Brussels sprouts are a classic cold-hardy fall vegetable, recognized by the small sprouts lining the 2–3 foot tall stalk. A close relative to cabbages, each sprout looks like a miniature cabbage. They have a long maturity period, typically 90–120 days, and often are best harvested after the first few frosts as cold weather improves their flavor.

SITE SELECTION/CROP CARE:
Brussels sprouts will produce the best crops when planted in full sun, though they will tolerate part shade, in average soils with moderate fertility and a pH above 6.0.

To maintain steady growth, the crop should be well fertilized and irrigated in dry weather; plants should be provided the equivalent of 1 inch of water per week. Crops grown under poor fertility or dry conditions will yield sprouts of lesser quality. Cool weather will provide the best growing conditions, especially when forming sprouts, but the plants will grow well in areas with mild summer weather prior to sprout formation.

FERTILIZATION:
Precisely timed fertilization has a direct correlation with the quality of the sprouts produced. Plants should not be fertilized after early July. Stopping fertilization initiates sprout formation and ceases growth of the stem. At this time, the leaves may begin to yellow and drop off the stem; this is normal.

Fertilization techniques can vary depending on the size of the area planted, the capabilities of your equipment, and how much fertilizer your crop needs.

For direct-to-market production:
Prior to planting, perform a soil test to identify your fertilization needs. For most varieties, approximately 200 pounds of nitrogen per acre is required for a good crop. Fields that already have a sufficient amount of nitrogen in the soil, as indicated by the soil test, won't require side dressing unless the plants appear to be growing slowly from lack of nitrogen. If your soil test indicates a nitrogen deficiency of 50 pounds or less we recommend side dressing that amount of nitrogen 4–6 weeks after transplanting. If the deficit is greater than 50 pounds we recommend side dressing twice, using half the quantity of the deficit each time, 3 weeks and 7 weeks after transplanting. Note that these recommendations are only guidelines and that you may want to experiment with them. If your growing methods do not allow for side dressings then we recommend planting in soil with 200 pounds of nitrogen per acre.

For home gardens:
Prior to planting, perform a soil test; a soil sample can be sent to your local cooperative extension service, or a soil test kit can be purchased through our catalog or website. Amend the soil prior to planting as needed with compost. If your soil is fertile and the crop is growing well do not fertilize. If the plants seem to be slowing down, add compost near their base and hoe some soil over the compost, and water it in. This can be repeated whenever the plants are slowing down until early July. If you choose not to perform a soil test then plant in the best ground in your garden.

TRANSPLANTING:
While direct seeding is possible, it is recommended to transplant Brussels sprouts. Sow 2–3 seeds per cell in 72-cell plug flats or sow 3–4 seeds per inch in 20-row flats, ¼ inch deep, 4–6 weeks before transplanting. Keep temperatures at 75°F/24°C until germination occurs. When seedlings are 3–4 inches tall, transplant with 18 inch spacing between plants, in rows 24 inches apart.

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TOPPING:
For earlier, more concentrated production, pinch out the growing point at the top of the plants. This should be done when the sprouts on the lower part of the stem are ½–¾ inch in diameter. Although Brussels sprouts can withstand cold temperatures, extreme cold can damage quality. Any non-topped plants should have the growing point pinched 6–8 weeks before a hard freeze. When plants are topped, the top sprouts will mature first.

DISEASES:
To control diseases, adhere strictly to a preventative program that includes long crop rotations, at least 3 years, with non-cruciferous crops, clean starting mixes, and strict sanitation practices. Should disease occur in your crop, have an infected specimen tested to positively identify the disease.

A common disease of Brussels sprouts is black rot, identified by yellow lesions on the leaves in its earliest stages. As the disease progresses, the affected leaves may die and turn brown to black. The source supplier only offers seed that has been tested free of black rot in a sample of 30,000 seeds.

There are two host-specific species of *Alternaria* mold that affect Brussels sprouts and other *Brassica*. Small, dark spots that later expand into larger, tan circles are present on infected leaves. *Alternaria* favors wet conditions, so ensure proper air ventilation to prevent it. Refer to the disease control chart in our catalog or on our website for fungicides applicable to the treatment of *Alternaria*.

PESTS:
The best insect pest control on young plants is the use of floating row covers, which prevents the insects' access to the plants. Put row covers in place on the day of transplanting. If heavy pressure from flea beetles is observed, treat with azadirachtin or pyrethrin. Cabbage worms can be controlled with *Bacillus thuringiensis* (B.t.). The presence of cutworms can be prevented by cultivating the soil 2–4 weeks before transplanting seedlings to work in any cover crops and destroy weeds.

One of the most prevalent insect pests in Brussels sprouts are cabbage aphids (*Brevicoryne brassicae*). Aphids occur in dense groups and can be identified by their white, waxy appearance. They tend to be attracted to the young leaves that form the sprouts, causing a problem in the harvested crop. Applying Safer® Insect Soap is the source supplier's preferred OMRI-listed control against aphids, but applications of azadirachtin or PyGanic® may also be effective.

HARVEST:
Prior to harvest it is common for the leaves of the plant to senesce and turn yellow. It is the result of the plant pulling nutrients from the leaves and directing them to the developing sprouts, not the effects of a nutrient deficiency.

Sprouts can be harvested after the first frost and until the end of December in most areas, and through the winter in areas where the cold is not severe. Pick sprouts when they are firm and well formed, generally beginning when the lower leaves start to turn yellow. Break off the leaf below the sprout and snap off the sprout. If the plant was not topped, the upper sprouts will continue to form and enlarge as the lower ones are harvested.

If the plants were topped, the entire stalk may be harvested at once by cutting the stem below the lowest sprouts.

STORAGE:
Store in a cooler or cold cellar at 36°F/2°C with 95–98% relative humidity. They will store for 4–6 weeks under these conditions.

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