

# BABY CORN

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## About Baby Corn

Fresh baby corn has a crisp texture and a subtle, slightly sweet corn flavor. Although almost all the baby corn found in the United States is pickled or canned and imported from Asia, fresh baby corn is easy to grow in the Pacific Northwest. Baby corn is no longer a delicacy or specialty food reserved for salad bars and Asian restaurants; it is a locally produced delicious treat to eat raw or cooked in many recipes.

Baby corn's miniature size makes consumers think that it grows from dwarf corn plants, but the tiny ears of baby corn are simply immature ears from regular-sized corn plants. Specialty varieties are available for baby corn production, but baby corn can also be harvested from many common corn varieties. The purpose of this publication is to describe how to select a variety and grow baby corn. Marketing baby corn is also discussed.



## Growing Baby Corn

There are two different methods for producing baby corn. In the first method, baby corn is the primary crop, and a variety is selected and planted to produce only baby corn. In the second method, baby corn is the secondary crop in a planting of sweet corn or field corn, and the variety is selected to produce either sweet corn or field corn (Galinat 1985). The decision whether to grow baby corn either as a primary crop or as a secondary crop will influence variety choice, planting density, and fertilizer rates.

## Selecting a variety

There are specialty varieties of corn, such as Baby Corn, that have been developed specifically for baby corn production. The plants of baby corn varieties tend to produce more ears per plant than other corn varieties. However, many common corn varieties will also produce quality baby corn. Table 1 lists several varieties that produced marketable baby corn in field trials in southwest Washington. These varieties can be grown to produce baby corn as either a primary or a secondary crop.

Many other sweet corn and field corn varieties may also be suitable for baby corn production. Before planting a large-scale crop, plant a small test plot to determine your favorite variety. If baby corn is being produced as a secondary crop, the variety must fit the purpose of the primary crop, whether it be for sweet or field corn. Choose a variety that also has good baby corn ear characteristics. Ear quality—not quantity—should be your primary criterion.

**Table 1. Corn varieties that produced marketable fresh baby corn and the number of days from planting to first harvest in southwest Washington (Miles and Shaffner 1999).**

Variety	Type <sup>1</sup>	Days to Harvest <sup>2</sup>
Kandy King	su	96
GH2283	su	98
Tuxedo	se	99
Bodacious	se	100
Bonus <sup>3</sup>	su	105
Babycorn	Su	108
Tendertreat	se	110

<sup>1</sup>su—“sugary” or “standard” sweet corn; se—“sugary enhanced” sweet corn; Su—“field” corn.

<sup>2</sup>Number of days from planting to first harvest in Montesano, Grays Harbor County, western Washington.

<sup>3</sup>Bonus was not tested in western Washington, but it was tested in western Oregon (Reiten 1999). Days to maturity have been adjusted to reflect expected maturity in western Washington.

**Ear appearance.** When selecting a corn variety for baby corn production, ear appearance is very important. Kernels should be uniform in shape and petite in size, with rows neatly aligned and ends evenly tapered. Baby corn ears should be 2–4 inches long and  $\frac{1}{3}$ – $\frac{2}{3}$  inch in diameter at the base, or butt end (Chutkaew and Paroda 1994).

**Advantages of different varieties.** There is no taste advantage to using sweet corn types instead of field corn types for fresh baby corn production (Bar-Zur and Schaffer 1993). The immature ears are harvested before pollination and before any sugars have accumulated in the kernels. It may be advantageous, however, to use sweet corn types because they tend to be easier to hand-harvest. Sweet corn varieties have ears that are easier to break off from the stalk. The benefit to using field corn types is lower seed cost.

**Cross-pollination.** If field corn or specialty “Su” baby corn varieties are grown next to any sweet corn varieties grown for mature sweet corn production, the varieties will cross-pollinate and the sweet corn will lose its sugarness. Detasseling the field corn and baby corn varieties will prevent undesirable cross-pollination and will not affect baby corn production. For a more complete discussion of isolation of corn types and classifications of sweet corn based on sugary genes, see the Oregon State University *Commercial Vegetable Production Guides: Sweet Corn* (Mansour and Hemphill 1999).

## Soil Testing and Applications

In the early fall of the year preceding corn planting or in the spring prior to planting, conduct a soil test to determine lime and fertilizer requirements. Contact your local extension office for guidelines on how to take a soil sample. Another Farming West of the Cascades publication, *Soil Management for Small Farms*, describes soil testing and soil nutrition in more detail.

**Soil pH.** The optimum pH range for good corn growth is 5.8–7.0. If indicated by soil test results, apply agricultural lime in the fall or in the spring at the recommended rates. Most laboratories will recommend lime application rates based on a soil SMP buffer test that takes into account soil textural class and soil organic matter

**Table 2. Lime application rates based on soil Oregon State University SMP buffer test (Jackson et al. 1983).**

Soil pH Test Result	Lime Application (tons/acre)
below 5.6	4–5
5.6–5.8	3–4
5.9–6.0	2–3
6.0–6.3	1–2
over 6.3	0

content (Table 2). Application rates of lime without the SMP buffer test are only estimates since application rates vary for textural classes and pH.

**Phosphorus and potassium.** Based on soil test results, apply phosphorus and potassium fertilizer at planting (Table 3). For May planting dates, use the phosphorus application rates listed. For June planting dates, reduce phosphorus application rates by  $\frac{1}{3}$  and do not apply any phosphorus if the soil test exceeds 50 ppm (Mansour and Hemphill 1999). Band phosphorus approximately 2 inches to the side and 2 inches below the seed.

Potassium may be applied in the band at planting; however, no more than 60 pounds per acre should be banded. Also, to avoid seedling damage, the total potassium plus nitrogen in the band should not exceed

90 pounds per acre. If necessary, broadcast and incorporate potassium prior to planting.

If using manure, broadcast and thoroughly incorporate it prior to final field preparation. Another Farming West of the Cascades publication, *Applying Manure on Your Farm*, describes manure application in detail.

**Nitrogen.** Nitrogen is difficult to quantify in the soil. A fall soil test is not an accurate measurement of nitrogen west of the Cascades because winter rains leach nitrogen from the soil. A spring soil test is also not an accurate measurement of nitrogen as cool spring temperatures prevent organic matter decomposition and nitrogen mineralization. It is the mineralized nitrogen that is measured in the soil test; thus, a spring test will result in artificially low nitrogen levels.

If baby corn is the primary crop, a maximum of 80–100 pounds available nitrogen per acre are needed. High nitrogen application rates are not essential as baby corn is harvested before ear maturation, a time of high nitrogen use (Kotch et al. 1995). If baby corn is the secondary crop, apply nitrogen as for sweet corn (Table 4). In either case, apply 30–50 pounds of nitrogen per acre at planting in a band along with the phosphorus and potassium fertilizer. The total nitrogen plus potassium in the band should not exceed 90 pounds per acre or seedling damage will occur. If necessary, broadcast and incorporate potassium prior to planting to avoid excess amounts of fertilizer in the band. Apply the remaining nitrogen in a band 6 inches from the plants when the plants are 1–1 $\frac{1}{2}$  feet tall, approximately 6 weeks after planting.

**Table 3. Phosphorus (P) and potassium (K) application rates based on soil test results (Mansour and Hemphill 1999).**

Soil Test Result for P (ppm)	Phosphate Application (lb/acre of P <sub>2</sub> O <sub>5</sub> )	Soil Test Result for K	Potassium Application (lb/acre of K <sub>2</sub> O)
0–15	120–150	0–100	100–150
15–50	80–120	100–200	50–100
Over 50	60–80	Over 200	0

**Table 4. Nitrogen (N) application rates for sweet corn based on previous crop (Mansour and Hemphill 1999).**

Previous Crop	N Application (lb/acre)
Grain	200–225
Corn or vegetable	150–175
Legume	100–125

**Planting.** Prior to planting, plow and harrow soil as needed to form a smooth, level seed bed. Plant on well-drained soils to ensure an early planting and healthy crop growth; well-drained soils warm faster and are less likely to have soil-borne diseases. Plant seed at a depth of 1–2 inches.

For baby corn as a primary crop, space rows 36 inches apart and space seed 4 inches apart within the row (Kotch et al. 1995). Plant population will be approximately 44,000 plants per acre. For baby corn as a secondary crop, plant corn according to guidelines for sweet corn or field corn production: 36 inches between rows and 8–10 inches apart within the row. Plant populations will be 17,000–22,000 plants per acre.

In the Pacific Northwest, plant baby corn in late April through early June. Floating row cover, an agricultural-grade fabric, can be used to protect emerging seedlings from bird damage. Using a row cover can result in a 2-week advanced harvest. If you use a row cover, place it loosely over the newly seeded field and secure every 10 feet along all sides with soil. The row cover can be removed after corn plants reach a height of 4–6 inches. Removing the row cover facilitates weed-control activities.

**Irrigation.** Irrigation is necessary for growing baby corn in the Pacific Northwest, where the seasonal precipitation from May through September is 4–6 inches. The seasonal water requirement for corn is 12–14 inches. Irrigate so that precipitation plus irrigation is equivalent to a rate of 2 inches of water four times from mid-June till late August, for a total application of 8 inches. If corn harvest continues into September

and there is no precipitation that month, it is beneficial to irrigate an additional time. If rainfall accumulates during the growing season or the soil receives sub-irrigation, it may not be necessary to irrigate.

**Weed control.** As with any planting of corn, it is necessary to keep the weeds suppressed until the corn plants have reached a height of 2 feet. Early weed competition will delay corn maturity and reduce yield. To reduce weed germination and growth, plant a cover crop such as rye or buckwheat in the fall prior to spring corn planting. Mow the cover crop, if appropriate, before plowing it under in the spring. Mowing the cover crop reduces the size of the crop debris, making plowing much easier and speeding up decomposition processes. Cover crops have the added benefit of increasing soil fertility.

During the growing season, control weeds with mechanical cultivation between corn rows and hand cultivation within the row. Propane flaming can also be effective against weeds (Peachey and William 1997). At least two weedings will likely be necessary. As the season progresses and the plant canopy closes in, the demand for weed control will drop.

If you use chemical weed control, first identify the weeds in the field and then select herbicide and application rates according to weed types, soil type, and percent soil organic matter. Apply herbicides



**Ears of baby corn**

when corn plants and weeds are at the size and/or leaf stage described on the herbicide label. Pay particular attention to waiting periods stipulated on the label between pesticide application and harvest because you will harvest baby corn several weeks earlier than sweet corn and several months earlier than corn silage or grain.

**Harvest.** Ears are ideal for baby corn if they are bite size: 2–4 inches long and  $\frac{1}{3}$ – $\frac{2}{3}$  inch in diameter at the base, or butt end. To meet these criteria, harvest ears 1 to 3 days after silks become visible (Bar-Zur and Saadi 1990). Harvest baby corn every 2–3 days. At this early stage of ear development, the ear can grow very quickly, becoming too large in just 4–5 days. Some field corn varieties may need to be harvested before the silks emerge. To best determine the appropriate time to harvest for a given variety in your area, harvest a few ears each day starting as soon as the ears appear on the stalk.

- *Harvest individual ears by hand.* Each picking requires the same amount of time and labor that

would be required to harvest hand-picked sweet corn. Most varieties should produce marketable ears for 3–4 weeks, though very early varieties may have a shorter harvest period of 2 weeks.

- *For baby corn as a primary crop, harvest all ears.* A single planting may be harvested 9–12 times over a period of 3–4 weeks (Miles and Shaffner 1999). The close in-row spacing results in more high-quality primary ears per acre. Most varieties will produce 2–3 ears per plant; however, quality of the third ear may not be adequate. Expected yield is approximately 8,500 pounds of unhusked baby corn ears per acre, or 1,140 pounds husked baby corn (Miles and Shaffner 1999).
- *For baby corn as a secondary crop, harvest the second ear from the top of the plant for baby corn and allow the top ear to mature for sweet corn or field corn.* This method allows growers to use the secondary ear which otherwise may not mature for sweet corn production or contribute greatly to silage yield.

## Seed Sources

**Because baby corn is a new crop in the United States, seed can be difficult to find. This list of seed sources is designed to help readers find baby corn seed. It is not meant to endorse any of these businesses or detract from any businesses not listed.**

**Osborne Seed Company**  
2428 Highway 99 South  
Mount Vernon, WA 98273  
360-424-7333

**Nichols Garden Nursery**  
1190 N. Pacific Hwy.  
Albany, OR 97321  
541-928-9280

**Territorial Seed Company**  
PO Box 157  
Cottage Grove, OR 97424-0061  
541-942-9547

**Gurney's Seed and  
Nursery Company**  
110 Capital Street  
Yankton, SD 57079  
605-665-1930

**Johnny's Selected Seed**  
1 Foss Hill Road  
RR1 Box 2580  
Albion, MA 04910  
207-437-4357

After harvest, place the baby corn ears immediately into refrigerated storage with the husks intact to conserve ear moisture and preserve quality.

## Marketing Baby Corn

Consider carefully the decision to grow baby corn as a market crop. First, consider if the venture will be profitable: find a market and determine the market value of the crop. Before planting baby corn on a large scale, plant a small plot to determine which corn varieties are best suited for baby corn production in your area, and become familiar with harvesting, storage, and marketing techniques.

Baby corn is sold in the husk to maintain moisture and ear quality. The small ears are very tender, and if the husks are removed before use, the ears may become damaged, discolored, and desiccated. Baby corn can be sold either by the ear or by weight.

Direct-marketing to restaurants and at farmers' markets are good places to begin selling baby corn. Local growers have a marketing advantage in that they are able to provide a fresh, tasty product for consumers who have not had the pleasure of experiencing fresh baby corn. For baby corn nutritional information and preparation tips, see *Baby Corn: Food From The Field* (Miles et al. 1999).

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