



cultivate abundance

Tips on Growing Field Corn

A Cultivate Abundance Crop Information Resource

Rick Burnette, Technical Director
Cultivate Abundance
March 2021

Cultivate Abundance grows and shares seed from a Guatemalan maize landrace variety that was received in 2017 from Maria, a Ft. Myers-based urban gardener who belongs to the Mayan Akateko people group. Producing lower yields, this is not a commercial high-yield variety.



However, such maize may be appreciated by Latino Americans, and possibly others, in your own community. Its products include leaves for wrapping tamales (*hoja de maíz para tamales*), roasting ears for corn-on-the-cob (*elotes*) as well as dried corn with which to make *masa*, maize dough made from ground nixtamalized corn (e.g., hominy).

Choosing a growing site

A large field may not be necessary. A small patch (i.e., 30' x 45') on which one pound of seed is planted can produce an additional 15 to 20 pounds of dried, shelled corn. Ideally, corn should be grown on a site that is well drained and sunny with access to water should irrigation be needed. Protection from deer and other animal pests may need to be considered.

Preparing the site

Optimally, the site's soil should be tested (check with your local agricultural extension office) at least a few months prior to planting the corn crop to determine the types and amounts of nutrients that the corn crop will need and whether an application of agricultural lime is necessary to adjust the pH of acidic soils.

A pre-plant application of compost may be helpful to improve and maintain soil condition (e.g., drainage, aeration), particularly if the soil is low on organic matter. The University of Florida recommends that before planting, 1-3 inches of compost be applied to the soil surface and worked into the soil to a depth of about 3-4 inches.

Again, ideally based on a soil test, a pre-plant application of fertilizer is recommended before establishing the corn crop. Some gardeners may choose mineral/chemical fertilizers (e.g., 6-6-6) while others will prefer organic soil amendments.

One example of a commercial organic fertilizer (although this one is not certifiably organic), is Milorganite, a slow-release fertilizer (6-4-0) produced from recycled organic matter in wastewater (biosolids). Prior to planting, it is recommended that 4.5 lbs. (13 ½ cups) of Milorganite be applied per 50 sq. ft. of garden.

Other fertilizer options may need to be considered if a soil test reveals other nutrient deficiencies. For example, a supplemental source of potassium (K) should be considered if Milorganite is used on potassium-deficient soil as this product does not provide K.

Planting and immediate care

Rows may be distanced 2.5 to 3 ft. apart with hills of corn (planted along each row) spaced 1 ft. to 15 inches apart. We recommend that three kernels be planted per hill, no more than one inch deep. After emergence, when the seedlings are a 3-5 inches tall, the extra plants can be thinned to one per hill.

Mulching

To reduce weeds and maintain soil moisture, Cultivate Abundance recommends placing straw mulch between the rows and around the established corn plants. One option is to apply mulch to a prepared, weed-free patch just prior to planting, seeding each hill through the mulch. Mulch may also be applied to a weed-free patch after the corn crop has emerged.



Sidedressing

Sidedressing refers to administering a second application of fertilizer at an appropriate time after the corn is established. Such an application should be done sometime after the thinning of the crop to provide an extra boost of nutrients for growth.

One efficient means of sidedressing is to dig a shallow trench, approximately 1-inch deep, along one side of each row of young corn, spacing trenches within a few inches of the rows. A light application of fertilizer is applied into each trench and covered up.

A quicker method of sidedressing is to apply a small amount of fertilizer to the soil surface adjacent to each plant.

If using a higher nitrogen mineral/chemical fertilizer (i.e., 8-8-8) then a micro-dose application – such as the amount that a soft-drink bottle cap might hold – can be delivered next to each corn plant. Organic, slow-release fertilizers, such as Milorganite, having lower percentages of nitrogen, will require more material per plant; approximately ½ cup.

Recommended schedules for sidedressing are often based on crop height, ranging from when the corn is 6 inches tall (especially on sandy soil) up to 1.5 ft. Organic, slow-release fertilizers should be applied earlier to allow extra time for nutrient availability.

Irrigation

In certain climates, rainfall may generally be regular enough to produce a crop of corn, particularly on soil with good water retention. However, corn grown during dry periods, especially on sandy soil, will need probably need irrigation.

When irrigation is needed, most guides recommend weekly applications of 1 to 1.5 inches of water delivered either once or twice a week.

Corn grown in established gardens may already have convenient irrigation infrastructure (e.g., drip, micro-sprinklers). Otherwise, an adequate means of overhead irrigation (though less efficient) may be required.

To discern whether irrigation is needed, take handfuls of topsoil in various places to check for moisture. If little moisture is observed, then irrigation is probably needed. Wilting and rolling of corn leaves might be an indicator of dryness, although this may also happen due to hot temperatures, even when the soil is moist.

Pests

The main maize pest that Cultivate Abundance deals with in Southwest Florida is corn armyworm. This caterpillar attacks young corn plants, feeding on emerging foliage from inside the whorl. Damage can be seen on unfurling leaves. Armyworm feces (or frass) is also evident inside damaged whorls. This pest can devastate a crop before it has a chance to tassel.

In small corn plantings, caterpillars may be located inside whorls and extracted. Otherwise, when damage to young corn becomes visible, multiple applications of Bt (*Baccillus thuringiensis*) or spinosad products – both natural pesticides – may be applied directly into whorls as a spray or dust according to directions.



Other management tips

Tillers or suckers (secondary stems) growing from the base of the main corn stalk may be removed, although some research indicates that this may not be necessary.

Weed removal should be carried out at least a few times before the corn crop begins to tassel. Eventually, the mature stand of corn will shade out many emerging weeds.

You may also consider planting the corn along with compatible crops such as beans and squash/pumpkins, e.g., the traditional Three Sisters system.

Harvest

As mentioned previously, there are at least three traditional products from maize; husks for wrapping tamales (*hoja de maíz para tamales*, <https://www.mexicanist.com/l/tamales-a-new-gastronomic-proposal/>), roasting ears (*elotes*), and dried corn with which to make *masa*.

The harvest of mature dried corn can happen soon after the stalks, blades and tassels begin to dry out and turn brown. If seeds are to be saved, then the crop should be at least 400-500 feet from other corn to prevent/minimize cross-pollination. For seed saving purposes, at least a few weeks prior to harvest, corn plants should be inspected for vigor and the presence of large, filled-out ears. These vigorous, productive plants should be marked with surveyor's tape so that harvested ears can be kept separate for seed-saving purposes.



The entire ear of corn is ready to harvest when the husks are brown and dry. Husks can either be removed at harvest or allowed to remain until the crop is ready for shelling.

Post-harvest storage

After drying, one means of verifying that the seed moisture content is low enough for storage is to strike kernels with a hammer. If the seeds are mashed without shattering, then more drying is needed. If the seeds shatter when struck, then the moisture content is low enough for storage.

Corn for consumption can be stored in dry, well-ventilated locations where pests (e.g., rodents, weevils) are under control.



For long-term viability, seed corn should be stored in a cool location with low humidity; the lower the better for both temperature and relative humidity. Therefore, simply placing seeds into an envelope and storing them in a refrigerator is not a good idea as humidity levels in a refrigerator are high (65 percent or more) and will lead to decreased viability of seeds.

Seed storage in air-tight containers under climate-controlled conditions (e.g., air conditioned) might be adequate for up to a year of storage. However, neither the relative humidity and temperature will be low enough for prolonged storage.

One of the best ways to store dried corn seeds for a year or longer is by vacuum sealing them into appropriate bags and keeping them in cold storage. Not only will seed pests, such as weevils, be controlled, seeds in air-tight, vacuum-sealed storage are protected from high humidity and can be kept in refrigerators or other types of coolers as well as freezers.

Recommendations

We hope that your corn crop provides the following “food solidarity” opportunities:

- A better understanding of the challenges that smallholder farmers around the world face related to growing staple crops. Many of our migrant neighbors come from smallholder farming backgrounds.
- Learn more about small-scale corn production and possibly multi-cropping.
- Gain a better understand about the importance of maize for the people of Mesoamerica, Indigenous North Americans, and others.
- An opportunity to grow community, either among those involved with the production of the corn or to gain new friends from surrounding communities who are either new to corn production or those who come from corn-growing/consuming cultures.
- A chance to share the abundance, whether the corn leaves, *elotes*, dried corn for food, and/or seeds.
- An exchange of knowledge and experiences among those who value the products produced in your corn patch.



If you have extra dried corn, please feel free to mail some to Cultivate Abundance at the following address:

Cultivate Abundance
17151 Laurelin Ct.
North Ft. Myers, FL 33917

We will share the corn with our Immokalee neighbors and make *masa* (and *masa* products) for learning, celebrating and nutrition.

Blessings on your corn-growing adventure!