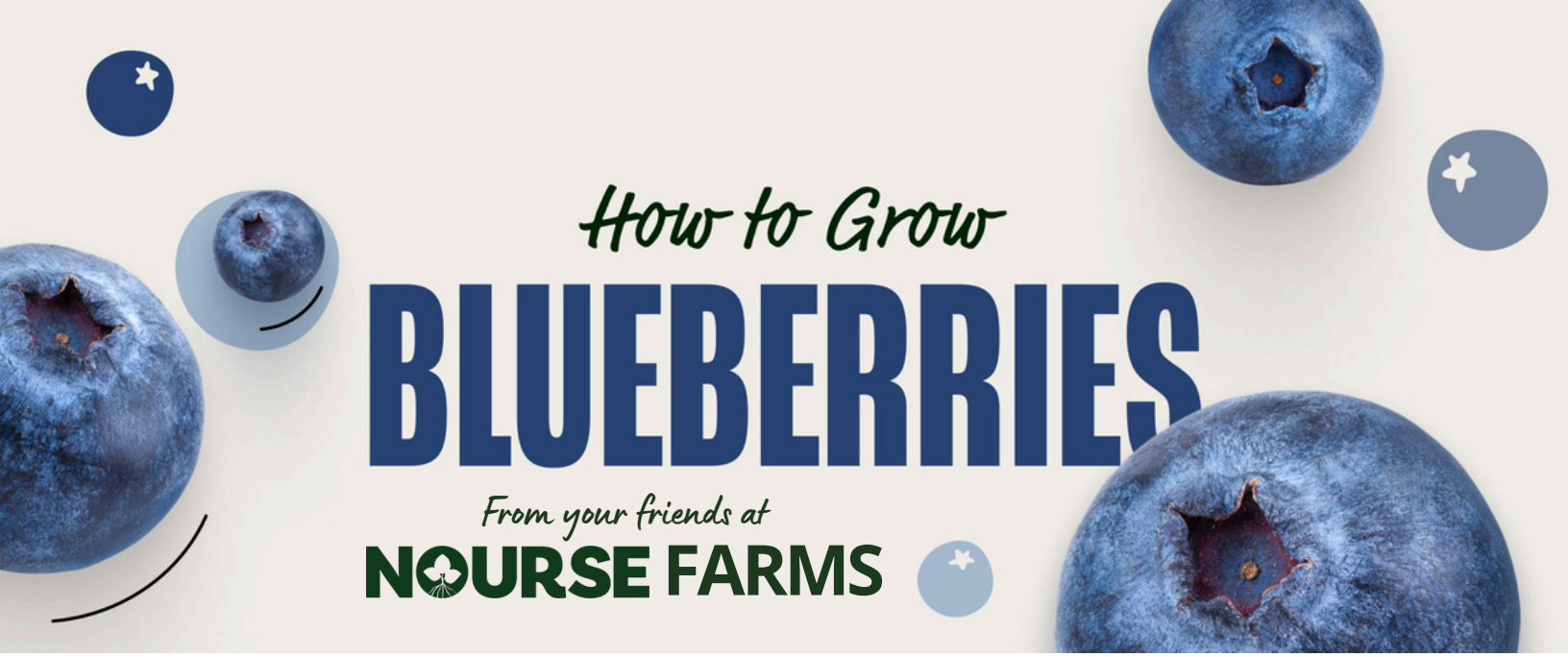


BEFORE YOU START

Blueberries prefer very acidic soils. For optimal growth, pH range should be 4.5–5.0, dependent on variety selection and soil type. For the strongest, healthiest start, check the soil pH and amend the soil by tilling in slightly aged woodchips and a prescribed amount of sulfur. If you are adding blueberries to your operation, we recommend sending a soil sample to your Agricultural Cooperative Extension as soon as possible. They will provide a report that details the exact materials and quantities to incorporate into the soil to achieve optimal growth for blueberries. Trying to amend the soil pH after planting is far slower and less effective.

Eradicate all perennial weeds before planting.

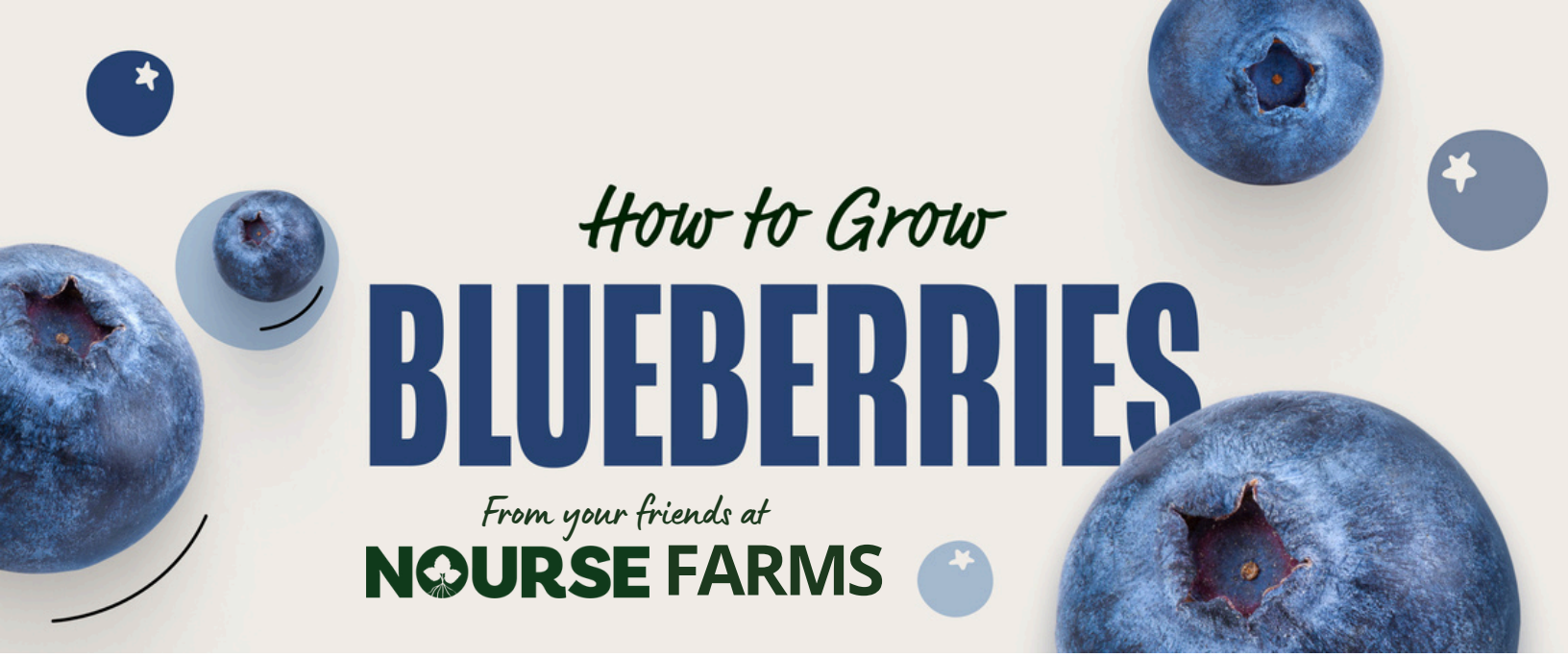
For optimal production, plant at least two blueberry varieties to ensure cross-pollination.

SOIL pH

The term pH refers to the acidity or alkalinity of a substance, such as soil. For blueberry plants pH testing and adjustment are essential; plants cannot efficiently and effectively uptake nutrients if the soil pH is outside their optimal growing range, even after applying adequate amounts of fertilizer or compost. When the pH is too high or too low, plants can become stressed, malnourished, and more susceptible to attack from pests and diseases.

HOW TO AMEND YOUR SOIL FOR THE HEALTHIEST, MOST PRODUCTIVE BLUEBERRY PLANTS

The soil needs time to adjust its pH to the optimal range. Amendments like sawdust, aged wood chips, old leaves, or finished compost can provide minimal pH changes but generally do not last long. Elemental sulfur is the most effective material for lowering pH levels. However, a combination of the above materials may provide adequate results depending on the current soil conditions, but the effect is very unpredictable. Amend soil with sulfur, not ammonium sulfate or aluminum sulfate. When sulfur is present, bacteria in the soil acidify the soil slowly over the growing season. The amount of sulfur to incorporate varies according to the soil type [sand (light), loam (medium), and clay (heavy)], as well as the present pH level of your soil.



BIncorporate the necessary amount of sulfur and slightly aged natural wood chips into the soil at a depth of about 6–8 inches as soon as possible, as it takes months for the soil to become acidic after a sulfur application during warm weather. Slightly aged wood chips support and improve the acidification process. Applying sulfur in the autumn will show little to no change in the soil pH on a test performed the following spring. The greater the required pH change, the longer it takes for the change to occur. Allow adequate time for the biological process to occur before applying more sulfur. Excess sulfur, resulting in a pH that is too low, can be toxic! Complete a soil test and use the proper amount of sulfur. Do not guess.

The soil will always slowly revert to its natural pH; apply small amounts of sulfur regularly to maintain the optimal pH range. For long-term success, measure pH levels every year or two and amend with small amounts of sulfur as needed.

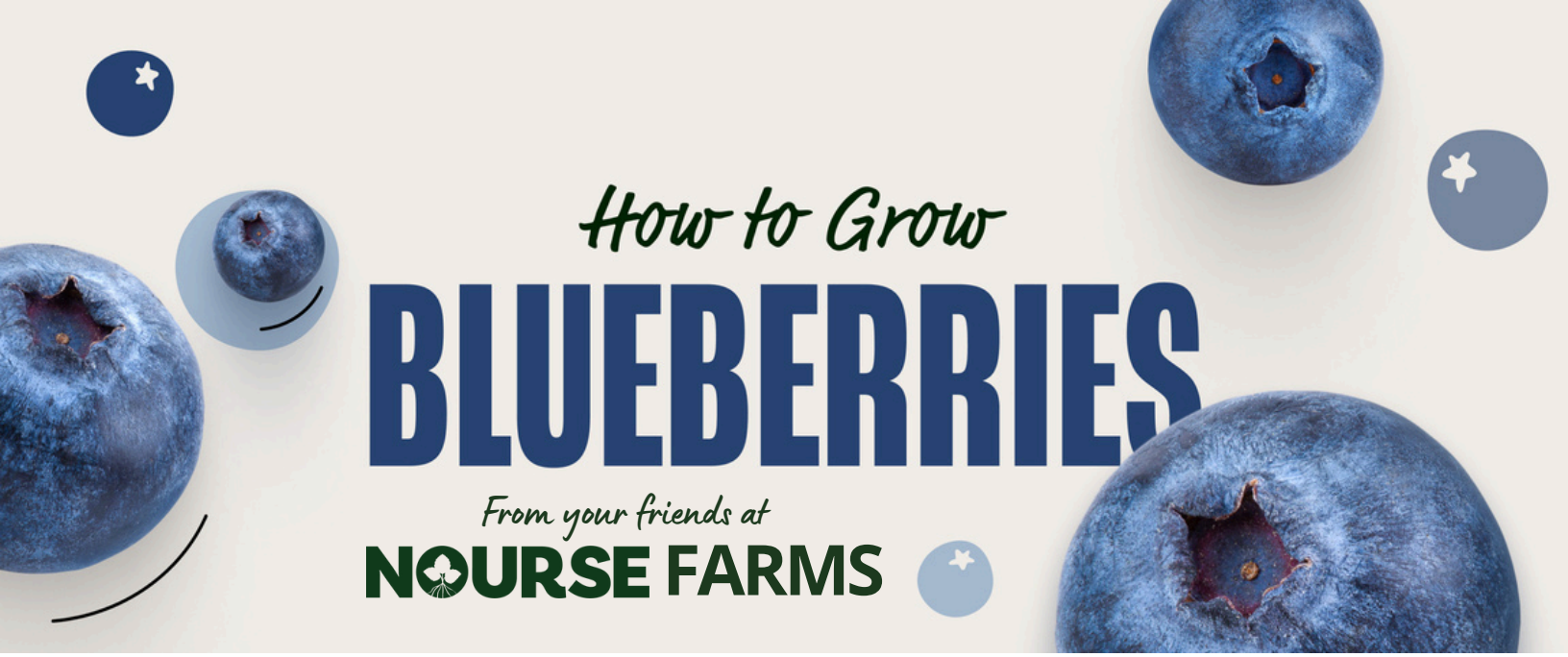
Notes: Guessing or applying a casual amount of sulfur annually can result in an unhealthy pH situation for the plants. Irrigating with high-alkaline water can contribute to a rise in soil pH.

PLANTING

We recommend mixing slightly aged (3-4 months) wood chips into the soil before planting. Wood chips aerate the soil, increasing drainage and root penetration. This method is suitable for all types of soil, but is most beneficial in heavier, silt-loam, or clay soils. Put a two-to-three-inch (2–3") deep layer of wood chips over your planting row and incorporate it thoroughly into the top six to eight inches (8") of soil.

Nourse Farms ships blueberry plants in a one-liter (1L) pot to make transplanting easy and establishment quick. Do not break up the root ball when planting.

If you do not test the soil and amend the soil a year before planting, you can add peat to the backfill at planting time. Do not use peat to try to acidify the soil in the row(s). If you use peat moss, thoroughly mix forty percent (40%) peat with sixty percent (60%) soil, ensuring the peat is thoroughly saturated with water before mixing. Place this mixture under and around each plant. Make sure the peat/soil mix is thoroughly covered with one-half to one inch (½–1") of plain soil after backfilling the hole. This practice is designed to benefit the first 60–90 days of



root development, promoting strong plant establishment and growth. Any peat not covered with soil will quickly wick moisture away from the plant, causing the roots to dry out rapidly. In this situation, you should still test the soil and add sulfur and woodchips to an 8-10" depth, so that as the peat breaks down, the sulfur is acidifying the soil. You can also top-dress with sulfur, but it will take much longer for the acidification to occur deep down where the roots need it.

WARNING: Do not use shavings or sawdust mixed with manure, as they contain excessive nitrogen for first-year plants.

IRRIGATION

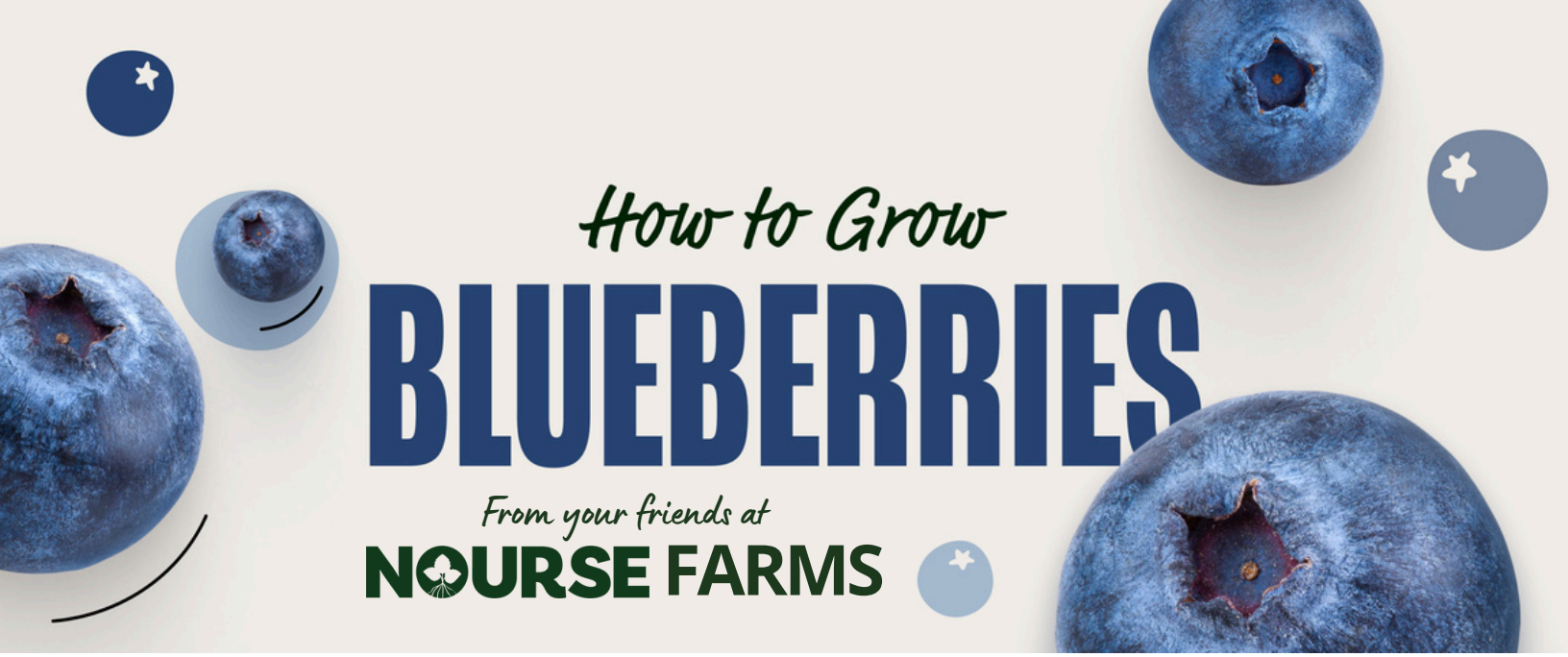
Check soil moisture regularly! Blueberry plants have a very shallow, fibrous root system that requires frequent, short-duration watering. As more leaves grow, water use increases.

Maintain soil moisture to prevent the roots from drying out. Water one to three (1–3) times per week, not every day, so roots have time to breathe. We highly recommend using drip irrigation placed between the mulch layer and the soil surface, as it is the healthiest and most effective method of irrigation. Water is applied directly to the root zone where it is needed, while keeping moisture off the plants, thereby reducing disease pressure. More moisture will be required for sandy soil, during hot, sunny weather, and when plants are flowering and ripening berries.

If the soil holds moisture readily, take measures to ensure plants don't stay too wet during long rainy spells and plant on raised beds to avoid root rot.

FERTILIZATION

First year: To avoid burning the roots, wait four to six (4–6) weeks after planting before fertilizing; however, do not fertilize after July 1. Apply one ounce (1 oz.) of ammonium sulfate in a circular band around each plant.



Subsequent years: Apply two ounces (2 oz.) per plant at bloom time and again one (1) month later. Do not apply fertilizer after July 1. We do not recommend fertilizing after July 1 because late fertilization may promote new, tender growth that may not harden off adequately in the fall, making it more susceptible to winter injury and potentially creating entry points for disease and pests.

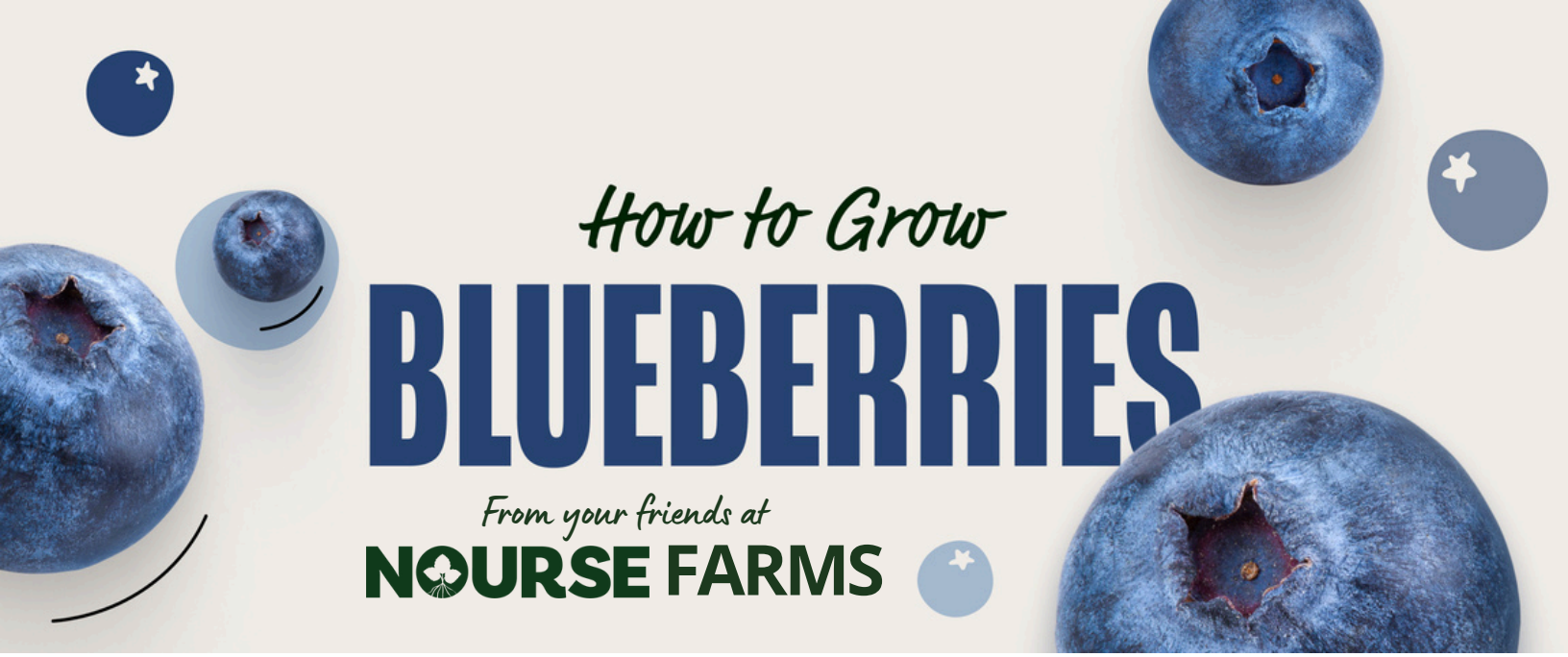
The best practice is to have the Agricultural Extension Service perform crop-specific testing for pH and nutrient levels annually. Apply only what is needed. Foliar testing may also be considered.

WEED CONTROL/MULCHING

Mulching can bring numerous benefits to your plantings, including providing micronutrients that enhance the fertility of topsoil, increasing organic matter, and improving the water-holding capacity of soil by reducing evaporation and moderating soil temperature. Additionally, mulching increases the number of fine roots.

Maintain a three to four-inch (3–4") layer of aged wood chips as mulch. Avoid using treated or colored wood chips or mulch, and refrain from using Cedar or Black Walnut chips. Cedar and Black Walnut chips can inhibit the growth of young plants and interfere with root development. Avoid using leaves or an excessive amount of sawdust, as both can mat down and prevent moisture from reaching the plant's roots.

Regular, manual weeding will be necessary. Weeds and crops compete for the same resources, including sunlight, water, and nutrients. When weeds deprive a crop of these resources, the crop yield is negatively impacted. Some weeds can also carry crop pathogens or serve as hosts for damaging insects.



PRUNING

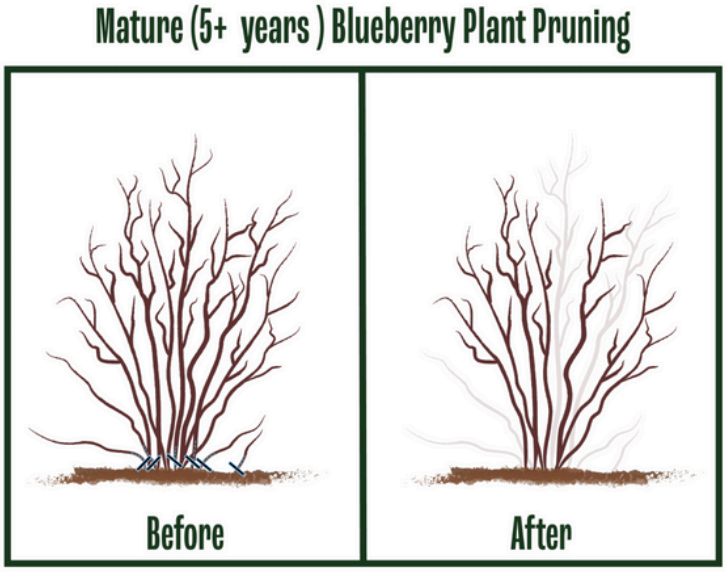
Young Bushes

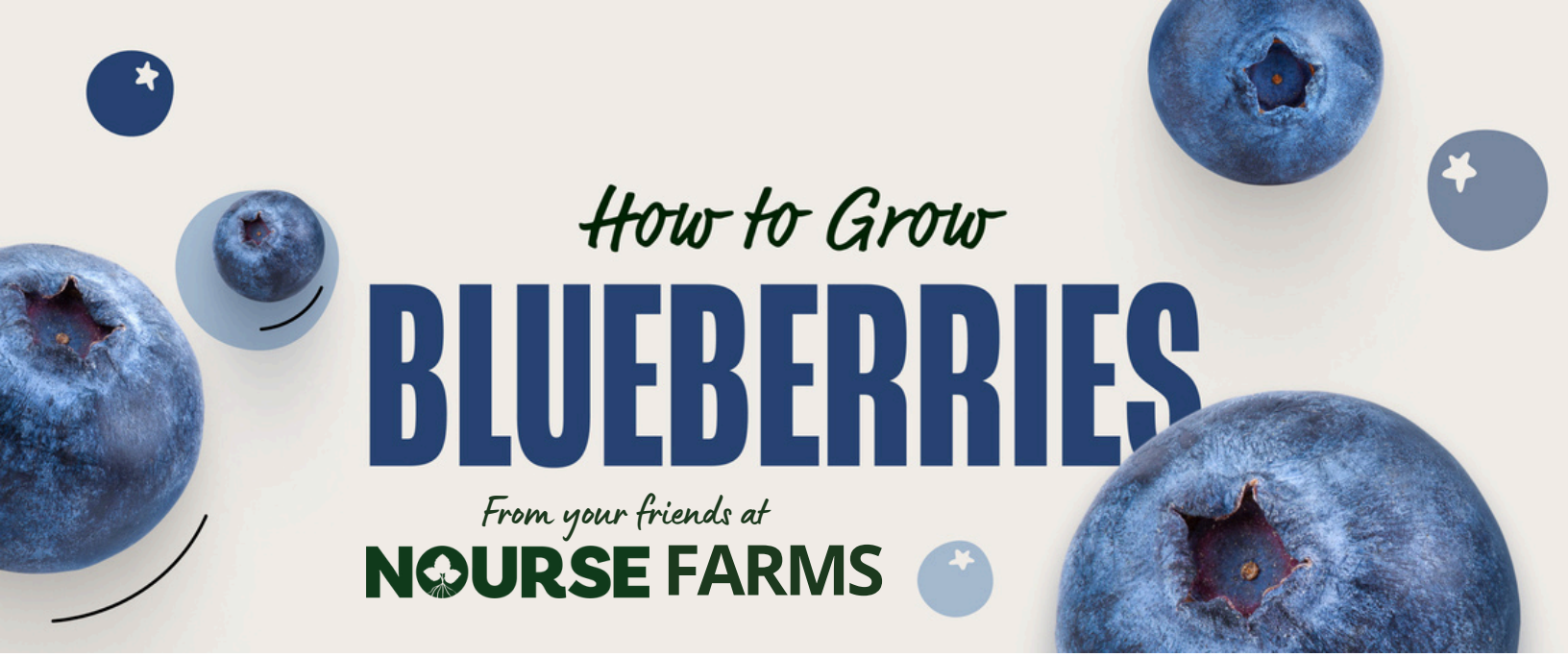
Remove all flowers during the first two to three (2–3) years and do not allow berries to develop. Allowing fruit to develop on first-year plants may stunt growth and delay establishment. Removing flowers enables the plant to focus on vegetative growth, redirecting its energy into developing a strong root system and a robust canopy. Blueberry plants that have flowers removed in their early years produce significantly larger yields and live longer. In the first two seasons, remove low-growing, scraggly branches to encourage the growth of upright, vigorous wood. No additional pruning is needed during the first three (3) years, unless you discover broken, damaged, or diseased canes or branches.

Mature Bushes

After the first three (3) years, prune blueberries annually in the late winter during the dormant period. Pruning directs growth into new wood. Your goal is to have approximately twelve (12) canes per plant. New wood produces the largest fruit. Remove older, heavy branches from the center to improve air circulation and light penetration. Remove lower, weak, and damaged canes less than six (6) inches long. These branches will never fruit and can serve as an entrance point for disease. Remove any canes over two inches (2") in diameter. After pruning, there should be a mix of one- two- and three-year-old canes.

After properly pruning a blueberry bush, the canopy is open, which increases flower bud initiation and reduces disease pressure. The base of the bush is narrow, the fruiting wood is off the ground, and there is a balance between leaf area and fruit load, resulting in high productivity and maximum berry size.





TROUBLESHOOTING

Especially during the planting year, leaves may be yellow, often with some reddish blush. Quickly correct yellow leaves on blueberry plants with a foliar application of one tablespoon of chelated iron per gallon of water sprayed over the leaves. You should see greener leaves in a few days. Most often, the underlying problem is that the soil pH is too high. Have your soil tested and make the required amendments if you didn't. Chelated iron is a temporary assistive measure. Yellow or reddish foliage in later years may be caused by a problem with pH or a nutrient need in the soil.

You should see twelve to eighteen inches (12–18") of new growth each year. If not, check your soil pH and consider using a little more fertilizer. Have a crop-specific soil test done, and or test the foliage for nutrient levels. Ensure your plants receive sufficient water, especially during dry periods and when plants are developing flowers and berries.