

When Is the Best Time to Fertilize?

Timing Nutrients to Plant Growth and Growing Conditions



GROWING TIPS

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Timing Nutrients to Plant
Growth and Growing Conditions



TIME IT RIGHT.
BETTER RESULTS FOLLOW.



WATCH GROWTH

Match fertilizer timing to active growth and crop stage



CHECK CONDITIONS

Consider soil temperature, moisture, and weather



TIME APPLICATIONS

Apply nutrients when roots can use them effectively



FOLLOW THE LABEL

Use the right product, rate, placement, and timing

Knowing what fertilizer to use is important.

Knowing **when to apply it** can be just as important.

Plants do not need the same amount of nutrition at every stage of growth, and nutrients applied at the wrong time may be used inefficiently, lost from the root zone, or provide little benefit to the crop.

Good fertilizer timing means matching nutrient availability with plant demand while considering soil conditions, moisture, temperature, fertilizer formulation, and the growing system.

USDA Natural Resources Conservation Service nutrient-management guidance includes timing as one of the fundamental principles of responsible fertilizer use: the right nutrient source, at the right rate, at the right time, and in the right place.

There Is No Universal Fertilizing Calendar

A common question is:

What month should I fertilize?

There is no single answer that works for every plant or production system.

The best timing can vary according to:

- Crop or plant species
- Stage of growth
- Soil temperature
- Soil moisture
- Nutrient being applied
- Fertilizer formulation
- Irrigation practices
- Climate
- Growing season
- Production method

A lawn, orchard, vegetable crop, container plant, vineyard, and field crop can all have very different nutrient requirements and growth patterns.

That is why fertilizer timing should be based on plant need rather than simply on a date on the calendar.

Match Fertilizer to Active Plant Growth

In general, fertilizer is most useful when plants are actively growing and capable of taking up nutrients.

During active growth, roots are functioning, new leaves and stems are developing, and plant nutrient demand is typically greater.

Applying nutrients when plants are dormant or growing very slowly may provide less immediate benefit.

For example, University of Minnesota Extension advises that fertilizer timing for grasses should correspond with their natural growth pattern. Cool-season forage grasses receive much of their growth in late spring and early summer, so nitrogen applications are commonly timed to support that period.

The same basic principle applies broadly:

Feed the plant when the plant is positioned to use the nutrients.

Start With the Crop, Not the Fertilizer

Before deciding when to fertilize, identify the growth cycle of the plant.

Ask:

- When does active growth begin?
- When does the plant establish roots?
- When does vegetative growth accelerate?
- When does flowering or fruit development occur?
- When does growth begin to slow?
- When does dormancy begin?

Different growth stages may place different demands on the plant.

A fertilizer application intended to support early establishment may be timed differently from one intended to support active vegetative growth or later crop development.

Timing fertilizer around these stages can help make nutrient applications more purposeful.

Preplant Fertilization

Some fertilizers are applied before planting.

This can be useful when nutrients need to be incorporated into the soil or when a fertility foundation is being established before the crop begins active growth.

Oregon State University Extension notes that some fertilizers and amendments are incorporated into the soil before planting, depending on the crop and nutrient program.

Preplant applications may be appropriate for:

- Garden beds
- Field crops
- New plantings
- Soil-incorporated dry fertilizers
- Certain phosphorus or potassium applications
- Organic nutrient sources that require time for biological breakdown

However, fertilizer should not automatically be added simply because the soil is being prepared.

Soil testing should guide the decision.

Fertilizing at Planting or Transplanting

Certain crops may benefit from carefully managed nutrient applications during establishment.

The objective is to provide nutrients without placing excessive fertilizer directly against young roots.

University of Minnesota Extension notes that some fertilizer formulations may be applied when transplants are placed into the ground.

Always follow the product label.

Young roots can be more sensitive to excessive fertilizer concentration, salts, or improper placement.

More fertilizer at planting does not necessarily mean faster establishment.

Fertilizing During Active Growth

Many fertilizer applications occur after plants are established and actively growing.

This may include:

- Side-dressing vegetables
- Supplemental feeding
- Fertigation
- Liquid fertilizer applications
- Foliar applications when specifically permitted by the label
- Additional nutrient applications during periods of high crop demand

Oregon State University Extension, for example, provides guidance for midseason side-dressing of certain vegetable crops when additional nitrogen may support continued growth and yield.

The important point is that supplemental fertilizer should address an actual nutrient requirement rather than simply follow a routine schedule.

Split Applications Can Improve Timing

Instead of applying an entire fertilizer amount at one time, some growing systems use multiple smaller applications.

This is commonly called split application.

Split applications can help align nutrient supply more closely with plant demand throughout the season.

They can be useful when:

- Crops have an extended growing season
- Nitrogen demand changes over time
- Nutrients are susceptible to movement through the soil
- Fertigation is available
- Smaller, controlled applications are practical

For some container plants, University of Minnesota Extension recommends more frequent applications at lower rates as a way to reduce nutrient loss through drainage.

The appropriate approach depends on the product and crop.

Soil Temperature Matters

Many organic fertilizers depend partly on microbial activity to convert organically bound nutrients into forms plants can absorb.

Microbial activity is influenced by temperature.

When soils are cold, biological processes generally slow.

As soils warm, decomposition and nutrient mineralization can increase.

This means an organic fertilizer applied to cold soil may not release nutrients at the same rate that it would under warmer growing conditions.

Timing therefore matters not only because of plant growth, but because of what is happening within the soil.

Moisture Matters Too

Soil moisture plays a major role in nutrient movement and plant uptake.

Very dry soil can limit biological activity and nutrient movement.

Saturated soil can restrict root oxygen and may increase the potential for certain nutrient losses.

When fertilizing, consider:

- Current soil moisture
- Expected rainfall
- Irrigation availability
- Drainage
- Soil texture
- Fertilizer formulation

Water management and nutrient management should work together.

Avoid Fertilizing Immediately Before Heavy Rain

Applying fertilizer immediately before significant rainfall can increase the chance that nutrients move away from the intended root zone.

Depending on the nutrient and site, losses may occur through runoff or movement through the soil profile.

This is particularly important where fertilizer is applied near:

- Slopes
- Drainage areas
- Streams
- Ponds
- Irrigation channels
- Other surface water

NRCS nutrient-management guidance emphasizes site-specific timing and placement to improve nutrient use while reducing losses to the environment.

Check weather conditions before application rather than fertilizing automatically because a scheduled date has arrived.

Avoid Fertilizing Severely Stressed Plants

Plants under significant stress may not respond normally to fertilizer.

Stress may result from:

- Severe drought
- Extreme heat
- Waterlogged soil
- Root damage
- Disease
- Transplant shock
- Salinity
- Other adverse conditions

Fertilizer cannot correct every plant problem.

If the root system is not functioning properly, increasing fertilizer may provide little benefit.

Correct the underlying growing condition first whenever possible.

Do Not Assume Spring Is Always Best

Spring is commonly associated with fertilizer because many plants resume active growth during that period.

But spring is not universally the correct fertilizer season.

For example, fertilizer timing for turf varies by grass species and climate. University of Minnesota Extension specifically cautions against fertilizing lawns too early in spring or during hot midsummer conditions.

Trees, shrubs, perennial crops, field crops, and container plants also follow different schedules.

The plant's growth cycle matters more than the season name.

Late-Season Fertilization Requires Care

As plants approach dormancy or the end of their growth cycle, nutrient demand often changes.

In some crops, excessive late-season nitrogen can encourage new vegetative growth at a time when plants should be slowing down.

University of Minnesota Extension recommends discontinuing certain fertilizer applications to blueberries in late summer as growth slows.

This does not mean all late-season fertilizer applications are inappropriate.

It means they should be based on the crop, nutrient, climate, and production objective.

Organic Fertilizers May Require More Planning

Organic nutrient sources can behave differently from highly soluble fertilizers.

Some organic nutrients become available gradually as microorganisms break down the material.

Their release can therefore depend on:

- Soil temperature
- Moisture
- Microbial activity
- Particle size

- Source material
- Formulation

A grower using an organic fertilizer may need to apply nutrients early enough for mineralization to begin before peak crop demand.

At the same time, some liquid organic fertilizers may contain nutrients that become available more quickly.

The label and product formulation matter.

Containers May Need a Different Schedule

Container-grown plants operate in a smaller root zone and often experience more frequent watering.

Water moving through the container can carry nutrients with it.

As a result, container plants may require fertilizer applications that are smaller and more frequent than those used for plants growing in field soil.

University of Minnesota Extension advises beginning regular fertilizer applications for many container plants several weeks after planting, depending on the growing medium and watering practices.

Container fertilizer schedules should therefore be based on the media, plant, irrigation frequency, and product directions.

Let Soil and Plant Testing Guide Timing

A fertilizer schedule should not be based solely on habit.

Useful tools can include:

- Soil testing
- Plant tissue analysis
- Crop history
- Visual plant observations
- Yield records
- Irrigation records
- Previous fertilizer applications

These tools can help determine whether additional nutrients are actually needed and when they are most likely to benefit the crop.

A Simple Fertilizer-Timing Checklist

Before fertilizing, ask:

- Is the plant actively growing?
- Does the crop actually need additional nutrients?
- Have I reviewed the soil-test results?
- Is the soil warm enough for the fertilizer to perform as expected?
- Is soil moisture appropriate?
- Is heavy rain expected?
- Is the plant under significant environmental stress?
- Does the fertilizer need to be incorporated?
- Would a split application make more sense?
- Is this the correct growth stage?
- Am I following the fertilizer label?
- Does the timing fit the crop rather than simply the calendar?

The Bottom Line

There is no universal best date for fertilizing.

The best time is when the crop needs the nutrient, the soil can support nutrient availability and root uptake, and environmental conditions allow the fertilizer to remain where the plant can use it.

Good timing means matching fertilizer application with:

Plant demand.

Soil conditions.

Weather.

Fertilizer formulation.

Application method.

Fertilizing at the right time can improve nutrient-use efficiency while reducing unnecessary applications and potential nutrient losses.

The calendar can be useful.

The plant and soil should make the final decision.

Disclaimer: This material is provided for general educational purposes only. Growing conditions, soil characteristics, crop requirements, application rates, and regulatory requirements vary. Always follow product label directions as well as all governmental and safety regulations or recommendations, and consult appropriate agronomic, regulatory, or crop-management professionals when making site-specific fertilizer or soil-management decisions.

To learn more about BWF Banducci's liquid and dry organic fertilizer products, visit
BWFBanducci.com.

