



# A GUIDE TO GROWING SHEETS

All recommendations are based on our growers' experience with these varieties in Grand Haven, Michigan, latitude 42.99°N, USDA zone 6a. Our summers are sunny and mild, with an average high temperature of 80°F/26.6°C; nighttime temperatures average around 60°F/15.5°C. Winters generally have reliable snow cover with an average high of 30°F/-1.1°C. Average winter low is around 20°F/-6.6°C, with frequent dips into the low teens (approx. -10.5°C), occasionally reaching single digits (approx. -13°C).

“Take care of the plants and they'll take care of you.”

– Dale Deppe

President, Spring Meadow Nursery

We aim to make these growing sheets as useful as possible for growers across North America. Our growing team is available to help you resolve your growing challenges – please contact your account manager.

## pH Level

Our standard woody plant growing media is composed primarily of peat and bark, with a pH of roughly 6.0. Where a deviation from this may be beneficial, it is noted here.

## Nutrient Needs

We use Harrell's 17-5-12 with minors 7-8 month time release fertilizer, top dressed at the medium recommended rate and no supplemental feed. This is what we consider “average” nutrient needs; supplemental liquid feed is at your discretion for these plants. “Low” nutrient needs indicates that the crop should get only a half-rate of time-release fertilizer and no supplemental feed; “High” indicates that supplemental liquid feed or top dressing in addition to the 7-8 month time release is required or highly beneficial.

## Light Level

This has been presented as a range of tolerances to help you maximize your growing space. Moderate light is considered 50% shade. If a crop will benefit from some exposure to high light in order to develop best color before shipping, it will be noted in the Grower Tips section.

## Watering

Moderate watering indicates that the plant has standard water needs - it should not be allowed to dry out excessively, nor should it be kept wet or require unusually frequent irrigation. If dry or low is recommended here, the plant benefits from drying out between waterings or prefers low irrigation levels. “High” indicates that the plant will experience significant drought stress if allowed to dry out and should be watered frequently.

## Rooting Out Temperature

Here we suggest an optimum temperature range for vigorous root growth. Meeting this temperature is imperative to get your crop off to a vigorous start. Note, however, that the roots of woody plants continue to grow in both colder and warmer conditions.

## Overwintering Temperature

There are two options here: polyhouse, no heat or 40-50°F/4.4-10°C. The latter is used for plants that may experience damage in cold climates and will benefit from a cool but not cold dormancy. Polyhouse recommendations assume 55% white poly on unheated hoop houses.

## Sales window

This has been included to help you time your crops to ship at peak interest. Additional timing notes may be found in the Grower Tips section.

## Trimming, vigor, and finish times

- Trimming is given as a range of times. Generally speaking, you should trim as new growth allows to encourage branching, a fuller container, and better blooming down the road. This means that trimming may be more frequent in warm climates, less frequent in cooler areas. More detailed notes on trimming can be found in the Grower Tips section.
- Vigor is given as slow, average, and fast. This refers to both the plant's growth rate and the time you can expect it to take to become saleable. In some cases, a vigor rate will indicate that it is fast for its genus, though it may not necessarily be as quick to finish as other crops that are considered fast. In general, you can count on vigor rates correlating to the following finish times:

	Slow	Average	Fast
1 gallon from a 2 ¼" liner	18-20 weeks	10-12 weeks	8-10 weeks
2-3 gallon from a Quick Turn	20-24 weeks	14-16 weeks	10-14 weeks

- A few notes on the Finish Size charts:
- Finish times are given as a range of weeks where the plant is actively growing. Count on the faster time in warmer climates and conditions, and the longer time in cooler areas and weather. In the 2-3 gallon line, the faster time generally indicates the time required to produce the 2 gallon, while the longer generally correlates to finishing the 3 gallon. These figures serve as an estimate only – actual finish times depend entirely on climate, cultural conditions, and the expectations of the market you are supplying.
- The smallest available liner size will be indicated as the first number in the “liner size” column along the “1 gallon” line. Not all varieties are available in all liner sizes.
- A number of varieties should not have 2 ¼” liners potted directly to 3 gallon containers, as the excess soil around the liner can cause root rot. If this is the case, the 2 ¼” size will be excluded from the “2-3 gallon” line. Additional notes will be found in the Grower Tips box.
- Further, some varieties should not have any liner size potted directly to a 3 gallon can; in this case, the “liner size” column indicates “1 gallon shift,” and the “Weeks to Finish” column shows how many additional weeks it will take to fill out the 3 gallon after potting the one gallon.

Finish Size	Liner Size	Weeks of Active Growth to Finish
1 gallon	2 ¼” • 4” • QT	8-10 • 7-9 • 6-8
2-3 gallon	4” • QT	18-22 • 16-20

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The recommendations in these growing sheets are not intended to be absolute. As every grower knows, plant production is both art and science, and we encourage you and your team to do what works best for your climate and production system. We welcome your feedback and suggestions.