

GARDEN ASTERS FROM CELL PACKS (Rev 3/25/05)
GRIFFIN GREENHOUSE AND NURSERY SUPPLIES, INC.

Rick Yates, Technical Support Manager
 (800) 732-3509, E-mail: ryates@griffinmail.com

Upon Arrival – Water as needed and keep in a full sun location until you are ready to plant. If you are holding them for more than a day or two, constant liquid feed at 200 ppm. Avoid holding rooted aster cuttings in the tray for more than a week so they do not “harden up”. This could reduce branching or make it uneven.

Potting Media – Mums can be successfully produced in a number of different soil-less media. Peat-lite, pine bark and/or coir mixes can be used, however mums grown in peat-lite mixes are more likely to blow over in the fields because they have a lower bulk density. The pH must be adjusted after wet-out to between 5.7 and 6.2.

Planting – Plant at the same level the cuttings were in the cell pack. Water in immediately, preferably with liquid feed (see Fertilization section). One cutting per pot is generally used up through 9”x 6” mum pans.

Watering – Avoiding extremes is important; constantly waterlogged soil invites root rots and poor root performance, underwatering can check the plant, and even encourage premature budding in the early production stages. Drip irrigation avoids wetting the foliage and is preferable to overhead irrigation systems. Several foliar diseases are encouraged by leaf wetting and open flowers can also be damaged by overhead irrigation.

Fertilization - Water quality is important; have it tested before choosing a fertilizer program. Griffin tests the water pH, soluble salts, and alkalinity, at no charge. Fertilizer and acid injection (if needed) recommendations are provided with the results.

Fertilizer Rates:

	Liquid Only	Half Liquid/Half Controlled Release	Controlled Release Only
At Planting	250-300 ppm constant feed	200 ppm constant feed	300 ppm once per week
After 2 Weeks	200 ppm constant feed	300 ppm once per week	Clear water
From 1st Color until Sale	100 ppm constant feed	Clear water	Clear water

Use 20-20-20 during the first 2 weeks, including, when possible, those given the full rate of controlled release fertilizer. This encourages soft growth that branches freely. After that, rotate 20-10-20 (3-4 times) and a calcium nitrate based fertilizer such as 15-0-15 (1 time), at the rates indicated, except those with the full rate of controlled release fertilizer. The alkalinity of your water will dictate the best rotation of fertilizers.

Controlled Release Rates for Different Size Containers:

	8 x 5 Pan Half Liquid/Half Cont. Release	8 x 5 Pan Controlled Release Only	9 x 6 Pan Half Liquid/Half Cont. Release	9 x 6 Pan Controlled Release Only
Nutricote 13-13-13 (100 Days)	1 Tablespoon (1513 pots/ bag)	5 teaspoons (908 pots/bag)	4 teaspoons (1132 pots/bag)	2 Tablespoons (756 pots/bag)
Osmocote Plus 15-9-12 (8 – 9 months)	1 Tablespoon (1513 pots/ bag)	4 teaspoons (1132 pots/bag)	4 teaspoons (1132 pots/bag)	2 Tablespoons (756 pots/bag)

Asters also benefit from additional Epsom salts being added to the irrigation water. Epsom salts provides magnesium, which can help keep the foliage a dark green color. Use 2 oz of Epsom salts per 100 gallons along with your non-calcium based fertilizer on a constant basis, or pulse treatments of 8 oz per 100 gallons can be made every week or two as needed. Magnesium deficiency appears as interveinal chlorosis of the lowest leaves.

Spacing – 8”x 5” Mum pans are grown on 18” centers, with 9”x 6” mum pans requiring up to 24”. Fast crop 6” can be grown on 12” to 15” centers.

Scheduling/Pinching – The second or third week of June is the ideal time to plant pinched aster cuttings from cell packs for 8”x 5” or 9”x 6” pans. Pinch 2 or 3 times total at 14 day intervals. Pinching for the last time 2 weeks after the last pinch on mums helps the two crops bloom around the same time. (See **Chemical Pinching** below for an alternative to hand pinching.)

Fast Crop Scheduling – Some growers plant 2 pinched plants per 8”x 5” or 6”x9” pan during the first 2 weeks of July, and do not provide any additional pinches. Fast crop 6” pots can be planted at the same time, with one plant per pot.

Chemical Pinching – Florel can be used to replace mechanical pinching when applied as a thorough foliar spray at 500 PPM (1.6 oz./gal.). Typically this is done one week before you would hand pinch. Even if your cell pack asters are pinched when you receive them they will benefit from an application of Florel applied as soon as possible after they arrive. This early treatment helps by getting the plants under the influence of Florel as early as possible. Repeated at two week intervals, Florel helps to keep plants vegetative as well as providing more breaks per plant when compared to hand pinching. Florel also reduces internode elongation, reducing or eliminating the need for other growth regulators later in the season. Labor savings are significant and greatly appreciated! Using more than 1 pinch and 3 Florel treatments (counting the one applied when you received the pinched cuttings) is not usually desirable. So many branches are produced that stem strength is reduced and the plants may pull apart at flowering. Most growers report great results from one application upon arrival, and one more 14 days later. You can also “time” your crop with Florel, since it delays flowering. Make your last Florel application before July

15th to avoid delaying the natural season flower date. CAUTION: Highly alkaline water may need to be treated in order for Florel to be effective. When Florel is added to your spray tank it must be able to drop the pH of that solution to between 4.0 and 5.0 to work properly. Distilled or acidified water may be needed in some cases. Using pHase5 to adjust the pH of the spray water to between 5.5 and 6.0 before adding the Florel will allow the final solution to be in the correct range. Call Griffin Technical Support for more details on the use of Florel or pHase5.

Insects – Aphids, caterpillars, thrips and Powdery Mildew are common pests on garden asters.

Consult the “Insecticide and Fungicide Options for 2005” bulletin for current control options, free from Griffin upon request.