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News & Views

for New Hampshire's Green Industry

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Results from Mum Pricing Survey

People looking for mums this fall to add to their corn stalks and carved pumpkins, won't have to search far. Seems just about everyone is selling mums these days, from farm stands to convenient stores. The only thing more variable than the types of retail outlets selling the mums is the price they charge. There doesn't seem to be any one factor that is directly correlated with price.

Thanks to a grant from the New England Floriculture Inc., the nonprofit agency that organizes the New England Greenhouse Conference, five UNH Cooperative Extension educators set out to survey the price of mums and see if we couldn't find some type of trend in the pricing structure. To do this we visited all types of retail outlets including box stores, grocery stores, roadside stands, farm stands, garden centers, apple orchards, hardware stores, and feed stores. The counties included in this survey were Belknap, Carroll, Hillsborough, Merrimack and Strafford and Rockingham. We noted the price of mums by pot size and asked a couple of questions to those selling the mums in order to gather some general observations about mum pricing that retailers can reflect on when considering how much to charge this fall. In addition to this, Brian Krug looked into the price of production to see how the average price the mums are being sold for corresponds with the average cost of production.

The table on page 2 shows the average and median price of mums by pot size as well as the number of locations (i.e. observations) surveyed that carried the given pot size.

The average is calculated using the price by location divided by the number of locations. The median is the price at which there are an equal number of prices observed above and below across locations.

Yellow mums in bloom.

The price of mums increased as the pot size increased. The most interesting jump occurred between the 10" pot and the 12" pot where the median price goes from $9.97 to $17.95, respectively, and the average goes from $12.15 to $17.30. Why the large price jump between the 10" and the 12" pots? We can't say for certain but one theory is that mums are a very traditional purchase throughout most of New England. The 8" pot has been the standard size pot for decades. People may see the 12" pot as a novelty and are willing to pay more for it. If this is the case then it would stand to reason that people would pay more for the 10" pot as well. This may be true; however, it's tough to make conclusions about the difference between the 8" and 10" pots because there is a large difference in the sample size.

The 10" pots did have the most variable price across the retail outlets, with prices ranging from as low as $6.00 to as high as $25.00, which accounts for the difference between the average and the median. This variability could reflect the fact that some people may see the 10" pot as large enough to be a novelty, yet some consider it to be

too close to the traditional size to deserve a price increase. On the opposite side of the scale, the 4" pots and the 6" pots are very similarly priced. With the average price for the 6" pot being only 65 cents more than the 4". This may again be explained by the theory that the 4" pots are seen as a novelty item and people are willing to pay more for what is perceived as unusual compared to the traditional pot. Or alternatively, it may be explained by the fact that people perceive no or very little difference between the 4" and 6" pot size.

Looking closer at price by location, the price of mums in 8" pots showed little variation across outlets. The garden centers are charging the highest price for the mums, with an average price of $5.83, followed by the retail centers at $5.35, and then the farm stands at $5.03. One may have expected to see larger differences in prices between these types of sellers but perhaps the abundant supply of product and the fact that customers have been purchasing these plants at a given price for decades is keeping the price at a ceiling for the 8" pots. When the pot size increases to 10" the difference between the price at the garden centers and the retail stores is more apparent with the garden centers charging $2.74 more. There were not enough farm stands selling 10" pots to report on the data.

Pot Size	Average Price	Median Price	Number of locations
4"	$3.28	$3.00	21
6"	$3.93	$3.99	17
8"	$5.53	$5.49	50
10"	$12.15	$9.97	15
12"	$17.30	$17.95	19

Table 1. Average and median price by pot size and number of locations.

About 55 percent of the mums being sold at 50 locations were grown by the seller. This includes garden centers, farm stands and retail outlets. Garden centers sold the most locally grown mums with farm stands coming in second. With the increase of fuel prices spurring a "buy local" crave across the nation, garden centers may have an opportunity to use that marketing tool to raise prices and widen the gap between their prices compared to the retail centers.

In a mature market such as the mum market one would expect the average price to level out over time. The price of the 8" pot seems to have reached this plateau, making it difficult to increase the price above the average consumer's expectations. However, the independent garden centers have the opportunity to make a profit with mums. One way they can do this is by adding value to their mums by offering novelty items such as different pot sizes and shapes. The traditional 8" pots should remain on the shelf, but garden centers can take advantage of their market power by advertising their product as locally grown and raise their prices. With the rising cost of production, this could be a good way to bring in some money from the traditional mums, even if it does just help you break even.

Sadie Puglisi, Extension Educator, Agricultural Resources, Merrimack County.

Determining Cost of Mum Production

Let's all be honest, we are all in this industry because we like to grow plants, not because we like to push a pencil across a piece of paper (or the more modern version - drag a mouse across a computer screen). However, taking the time to do a little cost analysis once in awhile will ensure that you can stay in business and see another successful crop walk out the door.

In this issue of the News and Views (pg. 1), Sadie Puglisi discussed what growers in New Hampshire are charging for garden mums. In this article we will take a look at how to determine what it costs to produce a mum crop. In this exercise we are not trying to determine the price to sell our plants for (cost plus a mark-up) but instead it gives us the minimum price we should charge. Conducting a cost analysis with any significance will take some time and patience but will pay dividends in the long run.

The goal of cost analysis is to divide you fixed and variable costs among a production unit and ultimately to an individual plant. Let's slow down for a second and get on the same track as far as fixed and variable costs. A fixed cost is one that is incurred whether you grow a crop or not. Overhead costs such as a mortgage, taxes, insurance, maintenance, utilities, phone bills, etc. should be included in fixed costs. Variable costs are those that are incurred only if you produce something. Plant material, pots, fertilizers, potting mixes, heat, pesticides area all examples of variable costs. Labor can be accounted for as either a fixed or a variable cost. Sometimes it can be more complicated and time consuming to consider labor as a variable cost. There is however, value in being as accurate as possible and account labor as a variable cost can achieve that. For simplicity, I will be considering labor as a fixed expense.

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In Table 1 a simple straightforward cost analysis of garden mums was performed for plants grown in 4, 6, 8, 10 and 12-inch pots. The costs for the materials were taken out of several industry supplier catalogs and averaged, no bulk discounts were observed. Size, cost of the pot, cost/cutting (unrooted) are self-explanatory. The cost of the substrate used per pot was calculated by taking the average price of cubic foot of substrate and divided by the number of pots of a given size that could be filled with one cubic foot.

Size	Cost of Pot	Cuttings/pot	Cutting cost (unrooted)	Cost of substrate/pot	Initial spacing (ft)	Wks @ initial spacing	Final Spacing	Wks @final spacing	Cost/ft²/w/k	Total cost
4”	$0.09	1	$0.38	$0.09	0.33	2	0.75	6	$0.19	$1.54
6”	$0.17	1	$0.38	$0.30	0.5	2	1	9	$0.19	$2.75
8”	$0.52	1	$0.38	$0.78	0.66	3	1.5	12	$0.19	$5.19
10”	$0.90	3	$0.38	$1.42	0.83	4	2	13	$0.19	$8.26
12”	$1.89	5	$0.38	$2.48	1	4	2.5	15	$0.19	$12.72

Table 1. Sample breakdown of the costs associated with growing mums in 4, 6, 8, 10, and 12-inch pots.

The initial spacing assumes pot-to-pot spacing and final spacing are industry averages to obtain a well-shaped plant. Fixed costs were accounted for by using cost/ft²/wk. To obtain cost/ft²/wk total overhead costs for an entire year are added together, divided by the total usable growing area, and divided by 52 (weeks in a year). For example: Overhead costs = $229,000.00, total usable growing space = 20,000 ft²; $229,000 / 20,000 ft² /52 wks = $0.22/ft²/wk. The nation wide industry average for cost/ft²/wk is $0.22 but refers primarily for greenhouse space, as most of garden mums in New Hampshire are grown outdoors I have reduced the cost/ft²/wk to $0.19 for this example. It is important to calculate cost/ft²/wk for your own operation as your overhead costs may vary significantly.

With the ever-rising prices of pots, fertilizer, labor, and fuel it has never been more important to know what your cost of production is. Knowing the cost of producing an individual plant will give you a baseline of what price you need to ask for your product. Taking the time required to complete a cost analysis of garden mums as well as all your other crops will ensure that you not only enjoy growing your crops but that you will make a profit doing so.

Dr. Brian A. Krug, Extension Specialist; Greenhouse/Floriculture. University of New Hampshire Cooperative Extension

Rain Gardens: Reducing Run-off, Improving Water Quality

Rain gardens are just what they sound like, gardens that soak up rain. Rain gardens collect run-off from roofs, driveways, yards and parking lots and allow that water to filter into the ground where it is used by plants. Rain gardens help protect the water quality in our lakes, streams, rivers and ponds by reducing the amount of polluted run-off reaching them. If installed correctly, rain gardens can easily collect up to 90% of the run-off from impervious surfaces.

Rain gardens are based on the idea that roots of the right plants, given the time to do so, will soak up large amounts of water, usually within a day. Rain gardens are not located in places where water stands for several days after a heavy rain. Water drains too slowly into the soil in these areas. Instead, an ideal location for a rain garden is where water is already going - on a downslope that drains well and is at least 10 feet away from a building.

Why are we hearing so much about rain gardens now? As our population increases, agricultural and forest land is being replaced by cities and suburbs, with their many impervious surfaces. Instead of soaking into the ground, stormwater quickly runs off the impervious surfaces in these developed areas. This causes problems for both the environment and the municipalities that have to cope with the costs of increased stormwater run-off. Flooding is more frequent, especially “flash” flooding.

While putting in a rain garden may seem like a very small thing, collectively rain gardens can produce very significant benefits for communities and the environment. Everyone remembers the terrible damage caused by floods the last few years in New Hampshire. I think all would agree that if rain gardens could play even a small role in reducing future flooding that would be a very good thing.

How do rain gardens work for us?

- Rain gardens increase the amount of rain water that filters into the ground, recharging our aquifers. This helps to sustain adequate flow in streams and rivers during dry spells.
- They help protect our surface waters from pollutants carried by stormwater: oil and other fluids from cars, substances that wash off of roofs and paved areas, pet waste, fertilizers, pesticides, by-products from household cleaners, and other pollutants. The EPA estimates that up to 70% of the pollutants in surface waters are carried there by stormwater run-off.
- Rain gardens provide valuable habitat for birds, butterflies and beneficial insects, especially when planted with natives that have large root systems for absorbing water.
- They can reduce erosion of stream banks and shorelines by slowing damaging water flow.
- Rain gardens can reduce the need for expensive municipal stormwater treatment systems.
- They can improve the appearance of a landscape, increasing property values.
- Water often penetrates deeper in a rain garden, encouraging worms and other soil organisms, thus creating healthier soil.
- And rain gardens may actually help eliminate mosquito problems created by standing water in other parts of the landscape.

Where should a rain garden go?

The easiest place to put a rain garden is downhill from an existing roof or paved surface where water naturally flows. To determine if the soil is suitable, perform a small percolation test. Dig a hole about 6 inches deep and fill it with water. If there is still water in the hole after a day, it's not a good site for a rain garden. Rain gardens should be located at least 10 feet from the building foundation to avoid water in the basement, and should not be located over a septic system or near a well. It is easier to build and maintain a rain garden in a flat or nearly flat area. If the slope is more that 12% it will be extremely difficult to create a level rain garden. If possible locate the rain garden in full sun, away from tree roots. Call Dig Safe (1-888-Dig-Safe) if there is any doubt about the location of underground pipes and utilities.

How big should it be?

Ideally the rain garden should be able to hold the rain water from a one-inch rainstorm. To accomplish this, the rain garden will need to be 30% of the drainage area. Calculate this by measuring the total area of the impervious surfaces that will drain into the garden, and then make the garden 30% of that area. A roof that is 1000 square feet would require a garden of 300 square feet. Common methods of directing water to the garden are by using an extension to a downspout, by piping, or by building a swale.

Building the garden

In order to temporarily hold water, the central portion of the rain garden must be at least 6 inches below the grade of the surrounding land. You will need to gently slope the garden to its lowest point to avoid eroding the sides of the garden. A one-inch drop for every foot across is a good rule of thumb. Also keep in mind that rain gardens on a slope will need to be dug more deeply into the high side to produce a level bottom. And in general rain gardens should have a flat bottom and be about twice as long (perpendicular to the slope for catching run-off) as wide. If the soil quality in the bottom of the garden is poor, dig a couple of inches deeper and incorporate organic matter to before planting. Use the soil from the excavation to construct a berm on the downslope side of the garden. The berm should be 3 to 6 inches high with gently sloping sides. Gradually taper the berm off as it wraps around to the side where run-off will enter. For more assistance with calculations see: www.clean-water.uwex.edu/pubs/raingarden.

What plants should be used?

When choosing the plants for a rain garden you will want to choose water-loving plants for the bottom, plants that need moisture for the middle, and drought-tolerant plants for the top and the berm. Grouping individual species in clumps of 3 to 7 plants will provide a bold statement of color. Repeat these groupings in the planting to provide cohesion and repetition. The URI Cooperative Extension Sustainable Tree and Shrub Manual provides an extensive list of native plants that will do will in most of New England. It is available online at http://www.pse.uri.edu/maynard_susplants/html_spl2000/index.htm.
The Portland Water District and the Maine Department of Environmental Protection also have good native plant lists: http://www.pwd.org/news/publications.php . After planting use the first few rains to evaluate the rain garden to determine if you need to make adjustments.

A rain garden in bloom.

Margaret Hagen, Extension Educator, Agricultural Resources, Hillsboro County

Summer Events 2008

July 15, 17 and 22. **Landscaping at the Water's Edge: An Ecological Approach to Landscaping Shoreland Property.** 5:45 - 9:00 pm. The Knowlton House, Sunapee Harbor, NH. This event is sponsored by Lake Sunapee Protective Association. Registration is $99 before July 8 or $125 if later. Addt'l registrations from same company or organization are $49 each. To register visit: https://www.events.unh.edu/register.shtml?event_id=4493. For more information contact Suzanne Hebert at 862-3200 or suzanne.hebert@unh.edu

August 20. **Water Treatment Workshop.** Pleasant View Gardens, Loudon, NH. 10 am - 3:30 pm. Workshop is free but pre-registration is required. Lunch provided. Contact Jim Smith at 435-1754 or JimS@pwpvg.com

September 28-Oct 1. **Plug and Cutting Conference.** Orlando, FL. Sponsored by Ball Publishing and OFA. For more information visit: www.ofaconferences.org

October 8 and 15. **Landscaping at the Water's Edge: An Ecological Approach to Landscaping Shoreland Property.** Times to be announced (during daytime hours), on-line registeration available after the July workshop. Keene State College, Keene, NH.

November 5-7. **New England Greenhouse Conference.** Worcester, MA. For more information, visit: www.negreenhouse.org

November 7-8. **GrowerTalks Sustainability Conference.** Frisco, TX. Sponsored by OFA and Ball Publishing. For more information visit: www.ofaconferences.org

December 3. **Plant Nutrition and Plant Growth Regulator Workshop.** Roberge Center, Rochester, NH.
December 9. **Plant Nutrition and Plant Growth Regulator Workshop.** NH Higher Education, Concord, NH. Sponsored by UNH Cooperative Extension. For more information, contact Brian Krug at 862-0155 or brian.krug@unh.edu

This newsletter is a cooperative effort of the Ornamentals Extension Educators and Specialist at the University of New Hampshire. It is published quarterly. Its purpose is to inform and update industry members on issues and research to the production, use and maintenance of ornamentals and turf in New Hampshire.

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