

Time for Mums- chrysanthemums that is...

Some of the plants we call mums have been analyzed and found wanting, that is, they have been transferred to another genus. We can live with those decisions; we love them under any name. While summer's annuals and perennials are showing their age, the Chrysanthemums are just now in full flower. Autumn flowers such as mums, poinsettias, and asters sense the changes in day length: it is as if they notice the days shortening so realize if they want to put on a display before frost, they'd best get a move on.

We know plants bloom according to day length but they also open and close at specific times of the day. Carolus Linnaeus, the 18th Century Swedish naturalist designed a floral clock in which the time could be 'read' by the opening and closing of the blooms. By close observation Linnaeus had determined those times for several species. For example, marigold, *Tagetes erecta*, opens at 7 AM and closes at 3 in the afternoon. His notations are probably not relevant to our lower latitudes and evolved species, but such a clock would surely be a waltz of the flowers.

If you were born between 23 October and 21 November Chrysanthemums are said to be your lucky flower. Actually they are lucky for all gardeners. The tough old-time perennials are not like the mounds of blooms offered for sale during the fall season. These decorative pots should be treated as a one-time display as they do not always winter over. The older sorts put forth their distinctive foliage in March sprouting from stolons creeping away from the mother plant. March is the time to divide them. If they tend to sprawl they can be trimmed back in early July.

We have been advised to keep a lookout for signs of Chrysanthemum White rust, caused by the fungus *Puccinia horiana*. This rust was discovered at a Fairfax County retail nursery on September 24, 2009 by a Department of Agriculture and Consumer Services (VDACS) inspector. The plants showing signs of the fungus had been imported from other states. Eradication protocols were followed hoping to prevent spread of the disease. Originating in eastern Asia this rust has spread to Europe, Africa, Australia, Central and South America. Cool wet weather favors its spread and it affects chrysanthemum, dendranthemum, nipponanthemum, and leucanthemum species.

Good News: We have been so fortunate in the rain this past summer. I read that more than 50% of all water use in cities, towns and villages goes onto our outside lawns and shrubs. Some irrigation experts say that we dump between 30% and 300% more water on our landscape than is actually required. You probably already know this having watched automatic sprinkler systems whirling away in the rain! Or you have watched sprinkled water rush away down the drive to the ditch. When 2/3 of the country faces increasingly threatened supplies of water, such misuse is garden variety dumb. However, there is a company now making a device with the potential to add a brain to the 60 million automatic watering systems in this country. It will save money and water by computing weather, sun, shade, and soil. You knew someone would invent that, didn't you?

Bad News: Along the Brittany coast of Northern France sea lettuce, *Ulva lactuca* has caused the death of a horse and a truck driver. This seaweed is harmless in the water but when drying on the beach it emits a toxic gas. The horse collapsed and died as it was being ridden over the sands. The rider was unconscious but was rescued.

The truck driver was hauling the seaweed off the beach without a mask or gloves. His job was part of an effort to remove 2000 tons of the the drying seaweed off the beaches. The explosion of algae is due to the high levels of nitrogen used in fertilizer as well as the nitrogen excreted by the region's high concentration of livestock.

Good News: A major strategy for mitigating climate change is a shift from annual to perennial grains, a technique that lowers the CO₂ emissions resulting from annual plowing and fertilizer use. In Washington State some perennial wheat varieties have been developed and the test yield had been more than 70% of the conventional annual wheat yield – not bad for a beginning effort.