



The Challenges of Outdoor Growing in Florida

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Syngenta Flowers produces Yoder® mums and asters on a 30-acre farm in Alva, Fla., with 75 percent of production under covered structures and the remaining area under saran. All site production areas are naturally heated and cooled. Approximately 11½ acres can be fully enclosed during cold weather. The southern location provides consistently high light levels and other conditions that are ideal for cutting production, but even optimum conditions like these are subject to insect and disease pressures. Here's a look at some of the challenges we face and how we overcome them.

Of course, we all know the 2009-10 season presented unique weather conditions. The coldest temperature recorded during the 2009-10 season inside a saran field was 25°F, and the coldest inside a fully enclosed greenhouse was 33°F, making it a challenge to maintain production schedules. Water is sprayed onto the stock plants to keep them from freezing as water's property of releasing heat, known as the heat of fusion, actually prevents the plants from freezing. After the freeze event, when cold temperatures subside and warmer nights return, plants need time to recover to prevent spray burn injury. This makes

spray programming an additional challenge after cold periods.

Humidity control in unheated greenhouses that are enclosed during cold weather events poses special challenges. High humidity and cool temperatures create conditions conducive to disease problems such as Sclerotinia, a disease not typically associated with conventional greenhouse environments. The Alva facility uses a biological fungicide to control the resting spores of this disease. Because of high summer temperatures this facility is unable to use insect screening, making plants susceptible to insect flights immediately after a freeze/frost event.

Springtime in Florida brings the fragrance of orange blossoms to the air. Along with that sweet scent comes an increase in population of the ever-present Florida flower thrip, along with a resurgence of aphids and whitefly, which can bring broad mite hitchhikers. The Alva facility utilizes a dedicated team of insect and disease scouts to catch outbreaks early and ensure a reliable supply of pest-free cuttings throughout the year.

After the spring insect wars have passed, summer rains begin. Daily afternoon showers create potential



plant potential

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for significant disease outbreaks, especially in saran areas. Specifically designed spray programs focused on avoiding resistance are used to alleviate these problems.

After four months of dodging lightning, hurricanes, 30 to 40 inches of rainfall and night temperatures above 75°F, autumn brings refreshing, cool temperatures. Along with these cool, refreshing temperatures come beet, southern, fall and garden-type army worms. True to their name, these worm moths lay an army of eggs. Under cooler autumn temperatures, lygus plant bug populations also return.

As winter returns and cool temperatures prevail, the cycle begins again.

Despite all of these challenges and this year's unseasonable weather, the Alva site offers some of the best growing conditions for producing mum and aster cuttings.