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LOW INPUT STRUCTURE AND FIELD CUT FLOWER PRODUCTION

Garry V. McDonald, H. Brent Pemberton, and William E. Roberson

Background. Potential exists for field and greenhouse production of cut flowers in East Texas. These alternative crops would serve producers wanting to diversify from traditional agricultural products in order to fill niche markets primarily in the Dallas-Ft. Worth Metroplex and Houston. Reasonable access to water of acceptable quality, established transportation networks, and pre-existing production facilities could allow East Texas to supply the region with high quality cut flowers. This proximity to major markets is crucial since most cut flower species are highly perishable. Also, many species such as snapdragon are so highly perishable that local, high quality production could easily compete with shipments from other states or foreign production areas. Currently, imports account for virtually all of the \$400 million annual florist trade in Texas.

Available information concerning crop scheduling and cultural requirements is not always applicable to the regional climate. Additionally, high energy inputs in the form of electricity and natural or propane gas make the use of traditional greenhouse technology not economically competitive with foreign imports. Greenhouse technology that uses a minimum amount of energy is available, but useful information on cultural practices using these structures is often lacking. The objectives of this research are:

1. To determine appropriate cultural and production practices for several field grown cut flower species in East Texas.
2. To investigate the potential and requirements of low energy input growing structures for cut flower production.

Current Information. Studies involving greenhouse production of cut flowers were initiated in the winter of 1990. Tulip cultivars were selected for their suitability as cut flowers targeted for the Valentine's Day market, and were grown in a modified quonset style greenhouse to incorporate some of the principles of a low input growing structure. Modifications included collapsible sidewalls which could be raised on warm sunny days and closed for frost protection. Heat was used to keep temperatures above 45°F. Factors under consideration were cultural practices, scheduling, and shading effects on flower stem length. The study was repeated in the winter of 1991-1992 and results suggest that quality cut tulip production for the Valentine's Day market is possible if careful cultivar selection and proper bulb handling is observed.

Studies initiated in the spring of 1992 will address the field production of several cut

flower species including snapdragon, delphinium, and sunflower. Areas under investigation are planting density and dates, flower stalk support, and weather protection. Also, studies in the modified low input structure will investigate problems particular to greenhouse production such as planting density and method of harvest for recropping. Species under study include snapdragon, delphinium, and giant flowering zinnia.

Application. The establishment of proper cultural methods for field and low input structure cut flower production could allow for the development of alternative crops for regional floral markets. Important factors to be considered are species and cultivar selection, timing, planting density, shading, support, and weather protection. Also, market development will be critical to the establishment of a viable cut flower industry in northeast Texas.