

- 3 Hartmann, H T and D E Kester 1975. Plant Propagation Principles and Practices, 3rd ed Prentice-Hall, Englewood Cliffs, N J
- 4 Zieslin, N, Haaze, N, and Halevy, A.H 1976 Components of axillary bud inhibition in rose plants II The effect of bud position on degree of inhibition Bot Gaz 137(4) 297-300

FIELD ROSE PRODUCTION

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Kimbrew-Walter Roses

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Rose plants have been produced in east Texas for many years where the acid, sandy soil and rainfall are favorable for production of roses as a field crop. It is important that the fields be well-prepared. We begin field preparation in 1981 for the 1983 season.

It takes over 2 years to produce a salable rosebush. The production cycle begins in early November with cutting the budwood from desired cultivars. We use plants that will be dug and marketed this year. The mature wood is defoliated, wrapped in freezer paper, and then in damp newspaper, placed in plastic bags, and stored at 28°F until time to be used next May.

Next, the switches of rootstock are cut from the field that was budded this last year. The switches are sawed into 6-inch long cuttings, de-eyed (lower eyes cut out leaving only 3 eyes on the top portion of each cutting), placed in bundles of 100, and put into large plastic bags for storing at least 2 weeks at 34°F before planting. In January, the cuttings are planted along the center of the rows that have been bedded up previously in the prepared field.

As the cuttings put on growth in the spring some of the bed is knocked down and, in May or later, depending on the growth rate and moisture in the soils and plants, the cuttings are T-budded with the desired cultivar buds that have been previously stored. The budsticks are removed from cold storage, slowly defrosted, and completely dethorned before being used in budding.

The field is cultivated and weeded all during the growing season but is not fertilized or sprayed (understock is quite resistant to blackspot and mildew.) That fall switches are cut from the understock plants to start the next crop.

The following February or early March, the understock

top is cut off just above the bud. We do this by hand with loppers. The tops are ground up and distributed in the field as a bit of organic matter added to the soil.

As the new plant starts to grow, the whole field is "mowed" about 5-inches high to "pinch" the plants back and encourage branching. This procedure is repeated 2 or 3 times early in the growing season.

During the growing season the field is cultivated repeatedly, weeded, fertilized in early April and early June, then sprayed with a fungicide weekly.

When the plants go dormant in the late fall, budwood is cut, and the plants are dug, graded, tied in bundles, labelled, treated with a fungicide, and placed in cold storage at 34°F. The plants must be watered daily in cold storage and are marketed either as bareroot plants or as processed or potted plants.

The growing of field roses is a lengthy and costly process involving a tremendous amount of time-consuming manual labor. Some of the processors have worked out technology for processing the roses for marketing in an economical manner, but there is a real need for economic improvements in producing the plant itself.

WOODY TISSUE CULTURE RESEARCH

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Plant tissue culture is a term used to describe *in vitro* plant propagation in a nutrient medium. Tissue culture uses the totipotency capability of plant cells to differentiate, develop, and grow into a plant (plantlet) from excised plant tissues (explants) (Figure 1). The first requirement for successful tissue culture is obtaining aseptic or sterile condition of the explants, laboratory, and medium to produce clean uncontaminated cultures. This is referred to in the literature as Stage I or "Establishment of Cultures". The type of explants (leaves, roots, shoots, etc.), the conditions of growth of the stock plants (indoors, outdoors, healthy), and the chemical used (sodium or calcium hypochlorite, benzalkonium chloride, ethanol) as sterilizing agent with the interaction of concentration-time of treatment, have a direct effect on the success of the establishing stage.