DENVER CARNATION CULTURE

by W. E. Gunsch

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The subject of "Carnations" was discussed by William Gunsch, a graduate of the Ohio State College floriculture division, who is now on the staff of the Colorado State College. He first told of the tremendous climatic advantage that Colorado has. On an average taken over many years, Denver has only sixty-two cloudy days and only 182 partly cloudy in a year, all the rest being clear. Likewise the average daily mean temperature over a 64-year period was found to be 50.2 degrees, with the average maximum daily temperature 62.9 degrees and the average daily minimum 37.6 degrees. Whereas the average rainfall in Ohio is around thirty-six inches, it varies between eight and sixteen inches in Colorado. The humidity in Colorado is low, it being unusual to find a humidity of over twenty per cent in rose houses, whereas in carnation houses the humidity varies from nothing to two per cent.

Formerly the growers made a practice of selecting cuttings from the flowering stems, after the cut flowers reached the grading table, but now practically all the growers are selecting their cuttings from the plants on the bench, as they have found in this way they have been able to improve their strain and to keep down the disease factor. The air temperature of the propagating house is kept between 50 and 55 degrees at night, while the temperature of the media is held at 55 to 60 degrees. Cuttings are rooted in washed river sand and watered for about ten days, providing the weather stays bright and the sun shines. The propagating bench is shaded and protected by a cheesecloth rack. Many of the growers in that section are using growth-promoting substances for aiding in rooting, especially the harder-rooting varieties, with maphthalene-acetic acid being the most commonly used.

Feeding

In the Denver area, none of the carnations leave the greenhouse, which means that in January it becomes necessary to discard a flowering bench or else hold a bench empty for this purpose and replant from the propagating bench, spacing the plants 3x4 inches. The analysis of virgin soil, such as is used to fill the benches, runs 6.2 to 7.0 in reaction, about two p.p.m. of available nitrates, one-half p.p.m. of available phosphate and ten to twenty p.p.m. of available potash, and it is low in organic matter. Treble superphosphate (forty-five per cent) is added at the rate of three pounds per 100 square feet, although some growers apply bone meal. The soil is pasteurized (sterilized). The cuttings are planted just deep enough to keep them from lopping over when watering.

After the cuttings are in for three to four weeks, a mulch of corral scrapings is applied, and if a soil test indicates the need for nitrogen, a 4-12-4 fertilizer is also applied. In the preparation of the standard, or final bench in which the plants are placed, the treble superphosphate is again added at the rate of five pounds to 100 square feet and often bone meal is added at the rate of four to eight pounds to 100 square feet and 4-12-4 fertilizer at the rate of four pounds to the same area. Later some growers use such inorganic fertilizers as ammonium sulphate and Ammom-phos when their need is indicated.
For insect control, Loro and Selocide were mentioned for red spider, Paris green and brown sugar for thrips and nicotine sulphate and pressure fumigation for aphids.