

**SOME ASPECTS OF BEDDING
PLANT PRODUCTION IN
QUEENSLAND, AUSTRALIA**

MARCUS A. PETERSEN

*Dannebrog Nurseries PTY. LTD.
Deagon, Queensland 4017*

Our nursery is 11 miles from the heart of Brisbane in a suburban area, which has a population of just under a million people. The Tropic of Capricorn passes through our state about 400 miles to the north of us, so that puts us in the sub-tropics.

The nursery industry in Australia services a population of 14,000,000 people spread over 3,000,000 square miles, while in the U.S. there is over 200,000,000 people in approximately the same area. Consequently, nurseries in our part of the world tend to be smaller in size. However, size isn't a criteria of efficiency and quality of production; we have some very efficient nurseries producing excellent quality plants. Modern up-to-date methods are used and many of our growers keep up with the latest developments from overseas which can be incorporated into their programme.

In my nursery we grow a variety of different things including bedding plants, ornamentals and house plants. I will endeavour to explain a little of how we produce and market bedding plants in our area.

Some 15 years ago we had a visitor to our country named Dr. Ken Baker, Prof. of Plant Pathology, University of California, a man who I'm sure most of you know. Ken had a marked influence on the nursery industry in Australia and I was one who became interested in his proposals and of the U.C. System of growing containerized plants. Prior to this time our bedding plants were produced in field beds using a large area of land. Now our annuals are produced and marketed in plastic punnets on a smaller area of land and much more economically.

We use 50% German sphagnum peatmoss and 50% fine river sand as our growing medium, adding the required amounts of lime, phosphate, nitrate, potash and trace elements for our conditions. This is thoroughly mixed in a paddle type mixer and transferred to sterilizing bins where we steam pasteurize the mixture with aerated steam at 140°F to kill the bulk of the pathogens and retain the saprophytic organisms to combat reinfestation.

The punnets are packed in trays of eight and the seed is sown by vacuum. The seed we use comes from various parts of the world, including the U.S.A. We find it necessary to heat-treat a great deal of the seed to control seed-borne diseases. Some, we hot-water-treat and others we treat with aerated steam. One particular problem we

have is alternaria leaf spot of zinnias. Excellent control is obtained by treating this seed at 130°F for 30 min. To make some seed easier to sow on the vacuum plate, we pelletize it ourselves. This is quite easily done using methyl cellulose and very finely ground calcium carbonate. Seed is first coated with methyl cellulose which makes the seed quite sticky, then the very fine lime is mixed with it and all of a sudden we have beautifully separated seed, much larger than the original and much easier to handle. Small quantities can be done with a shallow dish, a spatula, and a fine sieve to remove excess lime.

During cold weather (perhaps 2 months a year) it is sometimes necessary for us to germinate some seed under glass with bottom heat. Most lines that we grow are germinated in the containers in which they are to be sold. These are placed on sterilized concrete surfaces in shade houses of from 46 to 62% shade throughout the year.

In our area we experience heavy summer rains and very high humidity from December to March. Summer daytime temperatures are usually 80-85°F with 50-60°F nights; however, in a bad winter we can experience some light frosts. We are able to grow a fairly wide range of bedding plants throughout the year.

METHOD USED TO PELLETIZE SEED

Dissolve 1½ oz. methyl cellulose powder in ½ pt. of hot water. Stir continually until dissolved. Add 1½ pints of cold water and stir vigorously until properly gelled. It will have the consistency of honey. This can be stored in sealed jars for quite a long time without deteriorating. Put seed in flat dish — spoon the methyl cellulose gell onto the seed — sufficient to coat seed evenly — mix with spatula until seed is well coated and just sticky. Add calcium carbonate to seed — a liberal sprinkling (approximately ½ weight of lime to seed). Again mix with spatula till evenly coated and seed separates. Allow to dry for a couple of hours, then gently sieve off excess lime. Place pelletised seed into airtight containers to await sowing. Larger quantities of seed can be processed in a tumble-drum type motorized mixer.