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CURRENT THOUGHTS ON PINE BARK

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Much has been written and spoken about the use of shredded pine bark as a soil admendment. While the idea is appealing, the practice has not caught on with the mass of North Carolina flower growers. Why? Availability, cost, lack of research? None of these reasons seem to fit the average grower.

There are leaders in the use of any new practice, equipment or variety. Several North Carolina cut flower and potted plant growers have integrated ground pine bark into their overall program of soil preparation. The results have been rewarding.

What type of bark is used by the North Carolina growers? Potted plant growers use an aged, fine grade of ground pine bark. This grade has particle sizes that vary in diameter from 1/8 to 3/8 inch. Cut flower growers admend their soil with an intermediate grade of ground pine bark that measures in diameter from 1 to 2 inches. Growers are cautioned not to use the largest grade commonly employed as a ground mulch.

What proportion of the fine grade of ground pine bark is used in a potting mixture? Some growers combine by volume, 3 parts bark to 1 part coarse concrete sand. The sand adds weight to the mixture and promotes water retention. During the warmer months, several growers use by volume: (a) 3 bark, 1 peatmoss and 1 sand, or (b) 3 bark, 1 soil, and 1 sand. These media have superior drainage and aeration which aids fast plant take-off (Figure 1.)

Most cut flower growers periodically incorporate additional organic matter (usually peatmoss) into their growing medium. An intermediate grade of ground pine bark that is substituted for peatmoss results in excellent growth and flowering. Since drainage is improved, root rot is reduced.

HOLIDAY PLANT DAY, LIBERTY, N. C., NOVEMBER 29, 1972

FIGURE 1.

Pot Mum Plants Established
In Bark-Sand Mixture

It is recommended that cut flower producers admend their growing medium with at least 20% by volume of bark (Fig. 2). One hundred square feet of bed area, six

FIGURE 2.

Ground Bed Soil
Admended With Inter-
mediate-Grade Pine Bark

inches deep, total 50 cubic feet. Therefore, a grower should incorporate at least 10 cubic feet of bark into each 100 square feet of bench area. The bark decomposes very slowly, so subsequent additions will be proportionately smaller.

Our own research at N. C. State University strongly warrant the use of ground pine bark in greenhouse media. The results of Paul Nelson's past four years of studies with four media ingredients--pine bark, Floramull, Styromull and Cofuna--was recently printed in N. C. Agr. Exp. Sta. Tech. Bull. 206, "Greenhouse Media." A free copy may be obtained from Publications Office, Department of Agricultural Information, Box 5037, State College Station, Raleigh, North Carolina 27607.

The results indicated that aged pine bark of particle size 3/8" and smaller provided a very favorable substitute for sphagnum peatmoss in several soiless media composed of various combinations of the light-weight resins, Floramull and Styromull. One commercial product, manufactured in North Carolina, is related in part to these formulations and has performed very successfully for several florists. In other tests a medium consisting of equal parts of field soil, coarse sand and sphagnum peatmoss was compared with a medium in which pine bark was substituted for the peatmoss. The first crop of cut chrysanthemums performed poorly in the pine bark medium due to excessive drainage. Watering practices were corrected and in the two subsequent crops, growth of plants in the pine bark treatment was statistically equivalent to growth in the peatmoss treatment. This demonstrates the desirability for using either a lesser quantity of sand (about 20%) or the same level (33%) of a finer grade such as plasterer's grade. These alterations are currently being used in North Carolina greenhouse ranges and are meeting with a high degree of success.

It is also stressed in the bulletin that Styromull and perlite are good substitutes for sand in pine bark base media. This gives a lot of latitude for formulating pine bark containing media where weight is a problem.

This report further indicates the extensive root growth which occurs in media containing pine bark. Figure 3 illustrates this point with potted chrysanthemum plants grown in a media of 5 pine bark : 3 Floramull : 3 Styromull : 1 Cofuna. It should be noted that the benefits of excellent drainage and aeration can be quickly lost if frequent watering and fertilization are not practiced faithfully.

Figure 3.

Extensive Root System Developed
In Light-Weight Pine Bark Mixture