IMPROVED PLASTIC TUBES FOR SEEDLINGS

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Considerable attention has been given to planting trees using a tube in which seed has been germinated under controlled conditions and out-

Planted in the field 6 or 8 weeks after germination. This technique has improved survival and initial height growth of longleaf pine, wlanut, and oak. Tubelings more adequately supply water demands of seedlings with large root systems than of nursery grown root-pruning stock. Tubelings are advantage-

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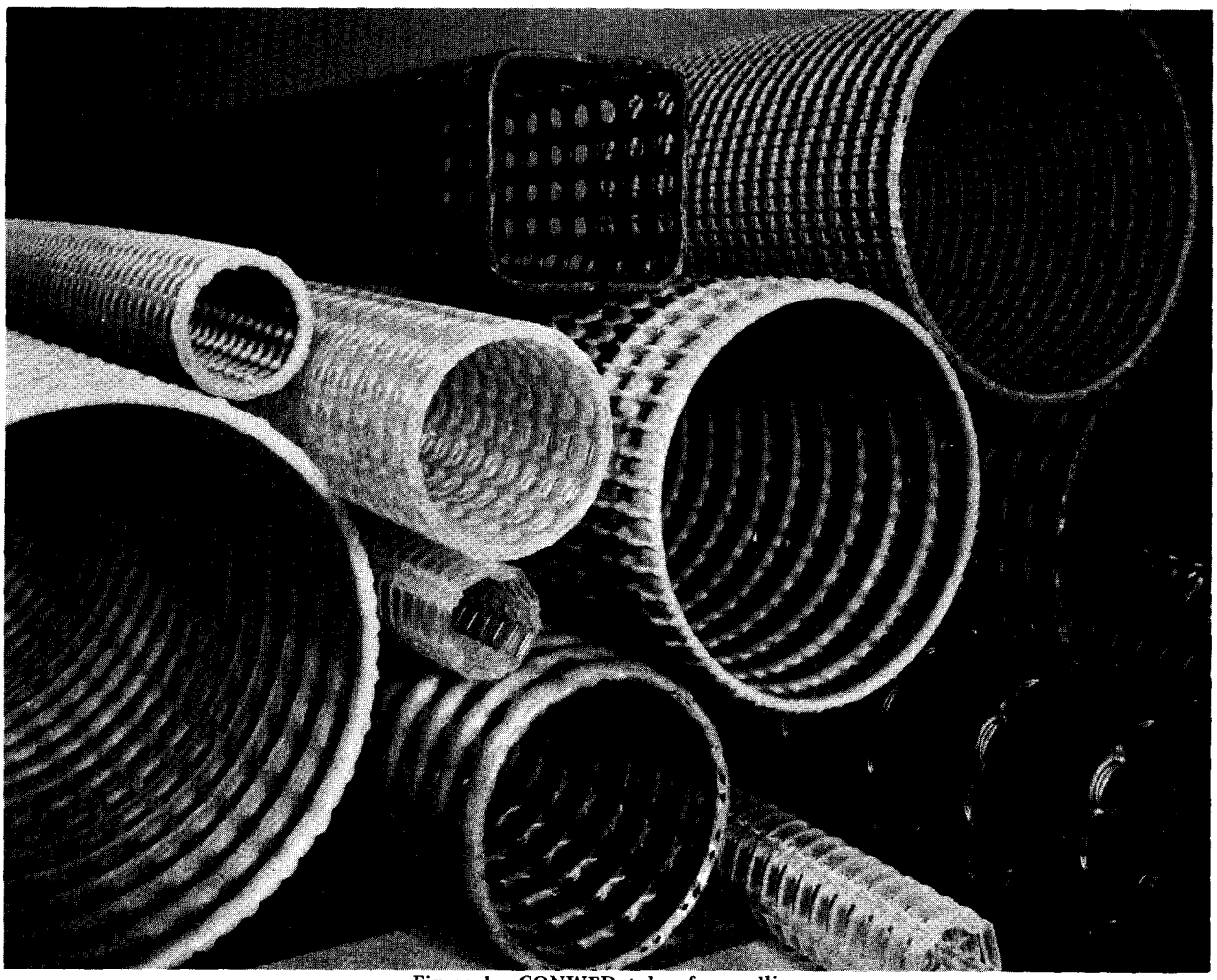

Figure 1.—CONWED tubes for seedlings.

ous in minimizing initial planting shock and total plating cost, and in prolonging planting seasons with prospects for good survival and initial height growth.

Tubes

Solid-walled tubes of styrene and kraft paper have been used in experiments. These tubes have a possible drawback in root development. The sides of these tubes are solid and do not permit lateral development of the roots through sidewalls of the tubes. This could cause convolution of the roots of large-rooted species. Also, since roots cannot grow laterally through the sidewalls of the tube into the sidewalls of the hole into which the tubeling is placed, heaving or movement vertically of the tubeling in the hole could be disadvantageous in some soils until the taproot is secure in the bottom of the hole.

CONWED Tubes

CONWED Corporation of St. Paul, Minn., developed a special plastic netlike tube, which may be an improvement over kraft paper tubes or solid wall styrene tubes imported from Canada (fig. 1) . The CONWED tubeling made of polypropylene is inert, strong, and can be manufactured in various colors, lengths, diameters, and degrees of flexibility.

The tubeling is inert chemically in that it does not contribute to chemical reactions in the microclimate around the seedling. Also, it does not have a tendency to act as a substrate or harbor fungi, such as a biodegradable container might. However, these tubes are somewhat degraded chemically by ultraviolet rays, which make the strands of the netlike tube somewhat brittle, causing them to break easier. This, combined with the practice of slitting the tube up one side before planting, allows the plant to expand as it grows and thereby minimizes root strangulation.

CONWED tubes can be made square, as well as round, to better fit carrying trays. Square tubes hold more germinating media than comparable circular types by eliminating voids between tubes in trays. The netlike walls allow development and extension of lateral roots *through the walls* of the tube. Opening size can also be selected to hold the particular soil, mulch, or fertilized germinating media and still be porous enough to permit lateral exit of roots. The cost of these tubes is comparable to those currently on the market, but these tubes have the added advantage of perforated sides and do not require importing.

More detailed information on CONWED tree tubes can be obtained from:

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Bibliography

1. Jones, Leroy.
1967, September. Tubed seedlings. Forest Farmer.
2. Alm, A. A., and Schantz-Hansen.
1967, September. Tubelings for tomorrow. Amer. For ests. pp 16-18.