FOREST SERVICE TYPE BALE

Carl Muller, Nurseryman
Hauss State Forest Nursery, Atmore, Ala.

The Forest Service type bale is probably the one most widely used packaging method today. It consists of using reinforced water-proof paper and sphagnum moss. Alternate layers of seedlings and moss are placed on the paper until a predetermined number of plants are arranged, roots to the center and tops to either end. The paper is then closed to form a round bale and fastened with strapping steel or wire.

In Alabama it costs about $0.34 per thousand trees for this type package. This method is used because it is economical and fast when used in connection with mechanical grading tables. Return of materials to the nursery is not required. The packages are easy to handle and water. In addition, the packages have a good resistance to freezing temperatures. Alabama feels this package is superior to K-P bags because it is easier to handle. One disadvantage of the method is its impracticability for field packing operations. Special tools and skills are needed to close the package. Once opened, the package cannot be conveniently reclosed to protect unused plants.

COTTON BATTING AS A WATER HOLDING MEDIA FOR SEEDLINGS

R. A. Jordan, Reforestation Supervisor
Florida Forest Service, Tallahassee, Fla.

The Florida Forest Service first tested cotton batting (Barnhardt Fiber Tree Wrap) 4 years ago. Since that time, we have used it to package 15 million or more seedlings each year. Table 1 gives the results of the first test.

Table 1.--Survival of seedlings stored with cotton and moss

Date baled	Time stored	Survival	
		Cotton	Moss
	Weeks	Percent	
12/5/62	5	91.0	86.6
12/12/62	4	90.2	88.8
12/19/62	3	93.5	90.0
12/26/62	2	94.5	95.0
1/2/63	1	98.8	99.3

All seedlings planted January 9, 1963.

During the 1963-64 season at Munson Nursery we baled approximately 15 million using moss. There was no apparent difference in the survival of the seedlings using either material.

In 1964-65, practically all seedlings shipped from Andrews Nursery (30 million) were baled using cotton batting and all from Munson Nursery (26 million) were baled in moss. One year after planting, the survival for the seedlings baled in moss at Munson was approximately 70 percent and those at Andrews Nursery baled in cotton was approximately 73 percent.

An employee of a company complained very vigorously about receiving seedlings baled with cotton used as a water holding media. We explained to him that cotton was equal to or superior to moss as a water holding media. I won't say this explanation completely satisfied him, but he arrested his complaints. The following October, I came in contact with this employee and he stated they had gotten the best survival that year that they had ever gotten.

During the 1965-66 season, virtually all seedlings shipped from the nurseries had cotton in the bale.

We are all concerned about production cost. I am not going to say that you can save money by using cotton batting in place of whatever material you are presently using. As you know, it would depend upon your present cost as to whether there would be a saving or not.

The Florida Forest Service has saved a considerable amount of money by using cotton. We paid from $1.67 to $2.12 per bale of moss. Each bale contained enough moss to bale 10 to 12 thousand seedlings. At 1.67 per bale and 12,000 seedlings, the price would be $0.1391 per thousand. At $2.12 per bale and 10,000 seedlings, the price would be 0.2112 per thousand. The higher price per bale was the cost of the most recent moss purchased and indications were the price would go higher.

Cotton costs $12.90 per roll f.o.b. the plant in Charlotte, North Carolina. Each roll will package from 120 to 140 thousand seedlings. Transportation cost to Florida is approximately $0.006 per thousand. At $12.50 per roll and 120,000 seedlings, the cost would be $0.11 per thousand. At $12.50 per roll and 140,000 seedlings, the cost would be 0.0942 per thousand.

We eliminated one man per nursery, which was $10.80 per day. The average daily production per nursery is 600,000. This was $0.018 per thousand. Therefore, the Florida Forest Service saves from 50.0471 to 0.0350 per thousand by using cotton batting instead of moss.

The actual savings would be hard to figure as there is a variation in both cost of materials and amount used to bale a specific number of seedlings. One additional savings that can't be figured as a direct cost is the increase in cost of compensation insurance caused by the disease