

The State of Colorado's Conservation Plant Materials System-What Makes It Successful?

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The Colorado State conservation plant materials program has a history of success, both in terms of volume of plant material shipped and in general customer satisfaction. This paper explains some of the reasons why.

What Is the Colorado Plant Materials System?

The Colorado Plant Materials System (CPMS) supplies conservation plant materials to public agencies and private landowners in the State of Colorado and to several other States. Conservation plant materials have been sold to the States of Arizona, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming. Various Federal and local agencies also buy plants. Colorado sells about 1.2 million plants per year; about one-half of these are shipped to other States and agencies.

The plants sold are relatively small in size for ease of transport and planting. They are shipped almost exclusively in the spring and are delivered to selected central distribution sites by the Colorado Forest Service. These sites are usually where there is a State extension agent, a soil conservation district officer, or a district forester who handles the final distribu-

tion of plant materials to landowners.

How Is the System Organized?

The Colorado State Forest Service (CSFS) is part of Colorado State University. The other general parts of the university are the State agricultural experiment station, the State cooperative extension service, and university academia.

Other branches of the university contribute to the CPMS in various ways:

1. The academic staff of the university provides technical assistance and advice.
2. Some State extension agents sell and distribute the planting stock at the conservation district level.

The head of the Colorado State Forest Service, the State Forester, is responsible for growing and delivering the plants, as well as for technical assistance to plant material users. Of course, this program is only part of his responsibilities. The fact that the State Nurseryman is a member of the State Forester's primary staff shows the importance the State Forester assigns to the nursery.

The State Nurseryman's responsibilities are much broader than simply operating the nursery. He also sees that planting stock orders are filled, consolidated, and delivered to the local distributing point at the

agreed-on time. He maintains a close working relationship with the field and coordinates nursery activities with field needs.

In addition, the Nurseryman:

1. Is the technical advisor on shelterbelt and windbreak establishment and maintenance for the State.
2. Is the internal reforestation advisor for the CSFS and helps train planting crews.
3. Helps promote conservation planting-throughout the State through public speaking and similar activities.

Consequently, the State Nurseryman carries a full administrative and technical workload. Since he is frequently away from the nursery, his staff must be capable of running it in his absence. A chart of the nursery's internal organization is shown in figure 1.

Compared to the organization of many State nurseries, the degree of organizational depth and the quality of prime subordinates are significant. These qualities insure continuity of nursery operation in the Nurseryman's absence.

Most orders for plant materials are accepted at the local level by extension agents, soil conservation district officers, or district foresters. These "agents" of the CPMS are the interface between the landowning public and the CPMS. The agents make the public aware of

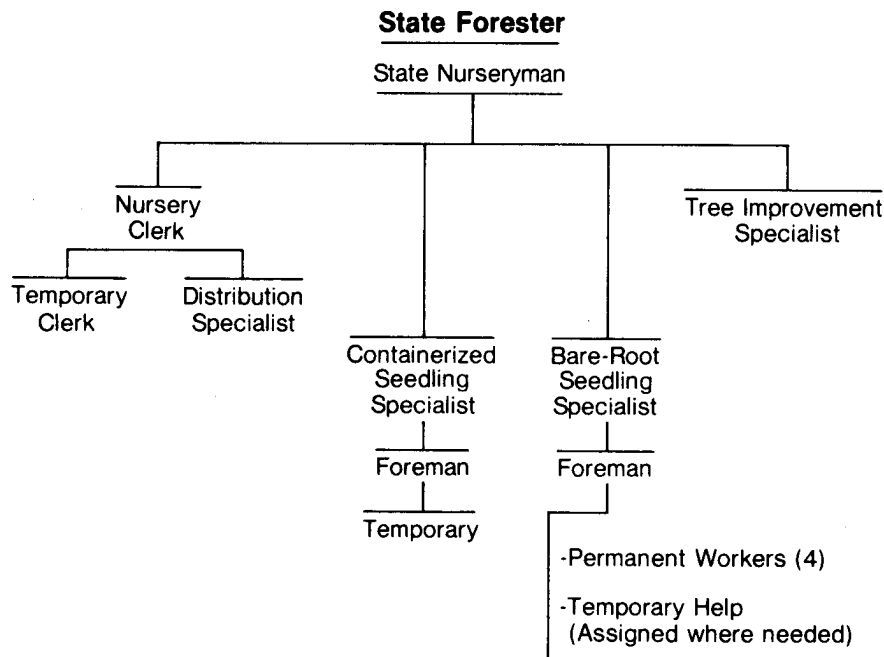


Figure 1.—Organization chart for the Colorado State Nursery.

plant availability, take orders and payments, pass orders on to the nursery, distribute plants to the buyers, and provide advice on planting methods.

The agents have many other jobs besides selling and distributing planting stock for the CPMS. Consequently, an incentive for them to sell trees has been integrated into planting stock purchasing procedures. Plants are sold by the nursery at progressively lower unit prices as order size increases. The local agent receives numerous small plant orders from landowners, paid for at small order rates. The agent accumulates

orders and payments and then forwards them to the nursery. When the orders are filled, the nursery pays the local agent the difference between the volume discount price for the *total* ordered by the agent and the total sum paid by the landowners for their individual, smaller orders. The volume discount difference accrued to the agent is used to pay clerical, communication, and equipment expenses associated with CPMS work. The more planting stock sold, the more discount advantage the local agent accumulates.

How Is the System Financed

Operating a conservation plant materials system with appropriated funds has some drawbacks. These drawbacks are attributable to the inherent budgetary rigidity associated with using appropriated money, contrasted with the variable effects of weather on nursery operations and tree planting. Weather conditions in Colorado are quite variable from year to year. This variability greatly affects successful culture of plants at the nursery and resultant plant availability. If tree production costs are higher than expected and an appropriated budget does not fully cover the nursery expenses, added money must be requested.

Many of the administrative problems of operating a plant materials system with appropriated money can be avoided by employing a working capital fund. Such a fund is created by donation of the nursery assets and the current operating budget to the fund. Planting stock selling prices are set to recoup the expenditures associated with operating the nursery.

Receipts from sales are deposited to the fund and operating expenses drawn from it. A modest surplus is gradually accumulated to cover deficits in income attributable to losses of seedlings, to endure lower than expected sales, or to finance

minor capital improvements. If the size of the reserve becomes too great, the selling price of planting stock is adjusted. This financial arrangement, instituted by the CSFS in 1974, allows flexible, efficient accommodation of unanticipated financial impacts upon the CPMS. Presently, the nursery and the entire CPMS are self-supporting, self-sustaining operations, with a conservative budget of about \$300,000 annually.

As mentioned earlier, plant materials are sold to neighboring States, local and Federal agencies, and certain private land management firms. This keeps unit production costs lower than they would be with Colorado State Business alone. Also, the CSFS provides the species and forms of conservation plant materials needed by the State's landowners. The resultant product "mix" (small seedlings and transplants and small containerized seedlings) further enhances the financial stability of the CPMS.

Summary

Colorado's plant materials system success factors can be summed up in a few basic categories:

The CPMS has a well-defined and organized ordering and delivering system. CPMS business is concentrated at the Fort Col-

lins nursery, and all segments of the system understand their relation to the other parts. In some States, some parts of the system deal with private plant materials firms, while others deal with the State nursery. This can occur for a variety of reasons, but seems to generally lead to high plant materials cost, a poorer nursery operation, and confusion.

The CPMS is able to provide conservation materials at a reasonable price with reliable delivery. A nursery servicing a conservation plant materials system must be able to supply quality plants at a reasonable price on a reliable basis. The Colorado State Nursery does this. In addition, the nursery offers a suitable range of plant materials useful for conservation planting throughout the high plains country.

The State Nursery is financed, managed, and staffed to accommodate CPMS needs flexibly and efficiently. Appropriate methods of handling finances greatly expedite a State nursery operation. A revolving capital fund allows operational flexibility in Colorado. Field agents are provided with financial incentives for generating added business. Sales of plant materials are made to other States lacking Colorado's production capabilities. Selling out-of-State helps lower in-State prices.

Capital investments in equipment and buildings are based only on demonstrated need. Very little speculation has taken place. This has resulted in a nursery that is not pretty, but is efficient.

The State Forester supports, encourages, and takes an active interest in the operation of the system. The State Nurseryman efficiently produces and distributes the plant materials. The success of the CPMS indicates the value of experience and managerial ability in a State Nurseryman.

Many State nurseries are understaffed. Consequently, when a key staff member is ill or leaves, the whole operation suffers. The Colorado State Nursery is properly staffed for operational continuity.

The success of a State conservation plant materials system depends on the integration of several items: (1) an effective sales, ordering, and distribution system, (2) State nursery capability to reliably produce quality plant materials, and (3) effective financial and administrative management. The Colorado State Forest Service and the other elements of the conservation plant materials system in the State are doing this at present. Several of the CPMS's current operational, managerial, and administrative practices are worthy of emulation.