Seed Handling of Fleshy Fruited Species in Forest Nurseries

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A glance at the list of fleshy fruited species will. quickly reveal that they are not likely to be included in any data concerning timber production. Most of the trees and shrubs in the category, are considered to be in the windbreak., erosion control, wildlife planting or ornamental group.

As the total needs of our society become known, greater demands are being made.upon us to produce plants of greater variety than has been our experience.

The needs of the cities will. be met, but more than Pine and Spruce, will be expected. The call of the Wildlife Biologist will be seeking more than the meager fare now being offered on listings of stock available from our forest nurseries. The Beautification Program has made deep inroads into our thinking, causing many of us to break away from our staid practices of the past which were based largely on the concept of saw-log forestry. One State Forestry Unit is now considering a program of Town Forestry, to be practiced in much the same fashion as the farm forestry programs in the rural areas. Aid to be offered to city dwellers would be offered free, with recommendations for shade tree care, landscaping advice, etc. All work would be turned over to private firms or the individual for carry-out of the recommendations.

The fleshy fruited species are normally cleaned in a macerator, constructed locally, a commercial. seed cleaner, or a hammer mill. The Dybyig seed cleaner, used very successfully at the Illinois Nurseries, may be purchased quite readily. Hammer mills must be used cautiously, as their primary purpose is to grind seed into some type of meal or flour. Hammers should be worn or ground down so that any seed to be extracted will fit easily between the hammer and the screen, else grinding will result. Speed of the hammers must be kept below 500 RPM, or seed will be broken, or embryos damaged by the shock of extraction. One test, showed that germination percentage could be increased from 1.5% to 85% by merely cutting the hammer mill speed in half. Our practice has been to use the hammer mill on hard seeded species and to use dried fruit without extraction for seeding of species with softseeds which might become damaged in the extraction processes, (Autumn Olive). We have always used a stream of water from one 3/4 inch hose, played into the mill as seed is being processed. Screens

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are selected which will not allow the seed to pass. Normally, 1/2 bushel of fruit is processed at a time. As the material is macerated, the water carries most of the pulp through the mill, leaving the seed behind. A good indication of the stage of the cleaning process can be had by watching the clarity of the discharge from the mill. When the water is no longer discolored, cleaning has progressed as far as possible without injury to the seed. The seed is then dumped from the mill and the next batch processed. Seed is then dried enough for immediate seeding, or may be dried completely for storage. Seed cleaned in the above manner would include Persimmon, Black Cherry, Flowering Dogwood, Hawthorn, American Holly, Deciduous Holly, and Multifiora Rose.

Seeds of very fleshy species such as the mulberries, bush Honeysuckles, Rhamnus, etc. , are treated the same, except it is impossible to clean these in one step. The fruit is macerated, then the seed and pulp are separated by floating off of the pulp by water flotation. Seed of good quality will sink and hollow seed floats off with the pulp. If seed is to be stored, all precautions regarding moisture content and exclusion of air must be followed. A rule of thumb regarding M.C. is found by rubbing dried seed between the palms of your hands rather briskly. Dry seed will feel cutting and sharp to the feel of your hands and should be dry enough to store. Seed which has a soft, rather blunt feelin[g] when rubbed, is generally not dry enough to be stored. Moisture content tests should be determined on this seed, with storage conditions being right when no further loss in moisture content is reached.

All precautions exercised in the normal collection of seed for nursery operations should be followed. No fruit should be kept in sacks or other containers for long periods (overnight) as heating occurs in a short time. If extraction is not to take place immediately, fruit should be spread out in thin layers on canvas or in screens. Protection against birds and mammals should be present at all times while seed is in the fruit or while drying prior to seeding or storage.

There are a few problem children among the fleshy fruited species. Red Cedar 'fruits contain a high resin content, making extraction difficult by ordinary means. Soaking of the fruits in a lye solution, one teaspoon per gallon of water, for a 24 hour period prior to extraction has been helpful. The process may be repeated if found necessary. Osage Orange, (Hedge Apple) is gathered in late Fall, piled outdoors over Winter and extracted in Spring, when the pulp has been well deteriorated by the freezing and thawing action. The fruit is then easily macerated and the pulp washed away.