

operation. In developing our 5-row transplanter, we had to wait until our quantities were large enough to offset the initial investment in the machine. We hope to develop a universal seeder for next spring capable of handling all types of seed. Our present thought is to develop an endless belt for each of the five rows.

MODERATOR JACK: Mr. Eugene Baciu, Mistletoe Sales, Santa Barbara, California, has been collecting, testing and selling seeds for the past 18 years. He will talk to us now on the interesting subject of, "Hydro-seeding". Mr. Baciu:

HYDRO-SEEDING

EUGENE BACIU

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Hydro-seeding, in essence, is the application of seed by high pressure water spraying. This is quite a simple and efficient method of getting a job done in a hurry.

Most of the work up to date has been done with sowing grass seed. This is done with hydro-seeding machines which have been built on several different carriers. Some small ones are built on two-axle truck chassis while others are built on trailers and semi-trailers. The tanks in which the slurry is mixed are of different sizes, as are the high pressure pumps. The tanks will hold enough mix to cover a given number of acres with so many seeds per acre.

The slurry is made of seed, water, fertilizer and mulch. The mulch may be made of different materials, such as grounded straw or hay, held together with oil or thin asphalt. However, the fact that straw is flammable makes it a distinct hazard. Some companies make a wood fiber mulch that holds together very well and its moisture retaining power is quite satisfactory. A relatively new mulch is fiberglass plus a light resin. Experiments are still being carried on with the fiberglass mix.

Many new highway areas are being seeded by this relatively new method, mostly because of the ease, speed, and efficiency with which the job can be done. As an example, a stretch of highway near Seattle was seeded in less than 22 hours and the area covered would be equivalent to more than 1,887 lawns. This is about one lawn per minute. Actual time per acre is about ten minutes, plus the time it takes to mix a new batch of slurry, plus the time for cleaning the equipment at the end of the day.

Planting of lawns, large and small, can be done with hydro-seeding. A 13 acre lawn was installed in four days using a total of 5,600 pounds of grass seed.

Now many landscaping jobs are having tree and shrub

seeds added to the mix. The area along the new Oak Flat Road to Yosemite National Park was seeded with 14 different kinds of ground covers, plus many tree seeds such as pine, cedar, dogwood and bitter cherry. The germination of the tree and shrub seed was very satisfactory. The search for desirable shrub and permanent ground covers continues. For the East and Mid-West, a ground cover called crown vetch has been utilized which gives a quick cover plus purple, blue and white flowers.

In California some of the native plants that show great promise are California buckwheat (*Eriogonum*), (which does very well on deep soil cuts), salt-bush (*Atriplex* sp.), which is being planted in the drier regions (the right species of this would be very good in most of the states), rabbit brush, (*Crysothamnus*) grows in most soils just as does the *Atriplex*. Also *Penstemon* gives a very good splash of color when mixed in with other ground cover plants.

About the first plants with good flowers to make a showing on the steep rocky cuts that man makes in construction projects are the monkey flowers, (*Mimulus*) and the golden yarrow, (*Eriophyllum lantum*). They seem to do best under virgin soil conditions.

Landscape engineers and architects are looking for plants whose seeds will germinate readily and send down long roots in a very short time. It is also important that the plants live a long time, reseed themselves, and be fire-resistant.

Beautiful flowers or foliage with growth so thick that they crowd out all of the weeds and stabilize the soil would be characteristic of the perfect plant. I wonder if the Rock Rose (*Cistus villosus*) is such a plant? This is a young, growing business and much work and research has to be done to find the right plants for the right environment.

VICE-PRESIDENT TICKNOR: For our second session this afternoon we will have a very able moderator in Mr. Bruce Briggs. He is well known to our Western group. Bruce, will you proceed now with your part of the program?

MODERATOR BRIGGS: We have four speakers talking on the same subject—rooting and grafting—but in relation to different kinds of plant materials. Mr. John Eichelser, Olympia, Washington, will be our first speaker, talking on rhododendrons.