first dug on the outside of this rectangle, following which the remaining block of soil was lifted up onto a canvas. The majority of the soil was then crumbled off the roots by hand, generally leaving soil particles of less than 1/4-inch diameter adhering to the roots. The samples were then carried to a central location for further processing. There, the tops were cut from the roots at the crown, and the lower parts of the stems were easily washed free of soil under a faucet.

In 1951, the legume roots were washed by hand under a faucet. This method was very time-consuming, particularly since several hundred samples were processed. In 1952, they were placed separately in 14 by 9 by 2 inch trays with wooden sides and 8 by 8 hardware-cloth bottoms. These trays were then stacked, 14 at a time, in a 50-gallon drum previously filled with water containing one pound of a wetting agent (Calgon). The top tray was covered with hardware-cloth to prevent loss of roots. The 14 trays, securely held together by metal straps, were raised and lowered into the drum four times, at half-hour intervals (figure 1).

Following this immersion, which loosened and dispersed some of the soil, the 14 trays were placed on a slatted platform raised 24 inches from the bottom of a 8 by 3 by 3 foot watering tank. A one-hour sprinkling by means of overhead flaring rose sprinkling nozzles, one over each tray, fed by three-fourths inch pipes and garden hoses, completed the washing process (figure 2).

A comparison of the time required for hand-washing and for soaking and sprinkling samples is presented in Table 1. Hand-washing alfalfa, sweetclover or medium red clover roots under a faucet required an average of 30 man-minutes per sample, while a ladino root sample required one man-hour. The total time required for all manual operations of the overhead sprinkling method with previous soaking, regardless of the species, was 45 man-minutes for 14 samples. The total cost of the apparatus, excluding cost of watering tank and drum, was $60.00. It was constructed in about 70 man-hours.

On the basis of these results, this easy-to-construct and rapid method of root washing, which resulted in perfectly clean samples, should make possible a more intensive and accurate study of root yields of agronomic crops.

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TANNIN AND PALATABILITY IN SERICEA LESPEDEZA, L. CUNEATA

SERICEA lespedeza, L. cuneata, an important perennial legume adapted to a wide diversity of southern soils, is rejected as a forage crop by many farmers of the South because of its low palatability. Many workers have directly or indirectly attributed the low palatability of sericea to the relatively high content of tannin in the leaves of this species. However, positive evidence that the high tannin content of the leaves directly affects palatability has