THE EFFECT OF LOW CONCENTRATIONS OF PLANT GROWTH REGULATORS ON ALFALFA

Attempts to increase the yield of a given crop by the application of plant growth regulators have met with outstanding success where weeds were killed and the crop was allowed to thrive without competition. Actual increases in yield of a crop where weeds were not eliminated by the application of stimulative dosages are more difficult to demonstrate. Taylor showed that corn was stimulated by applying the tips, but after the spraying procedure, the following concentrations of the growth regulators were applied: 0.005% 2, 4, 5-T (butyl ester), 0.02% triiodobenzoic acid, 0.1% isopropylphenyl carbamate, 0.2% isopropylphenyl carbamate, and 0.4% isopropylphenyl carbamate. The applications were made July 1, 1948, and the plots were harvested after 14 days since the growth was very rapid at this time of year. The 2,4,5-T caused more reduction in yield than before, probably because of the higher temperature and longer day length. No significant effect was observed in carotene content, total yield, or per cent dry weight with the remaining treatments.

Since other workers have shown that the stimulation of the growth of plants is possible with compounds such as those tested, perhaps the lack of more positive results was caused by improper dosage. Also alfalfa may be a plant in which the difference between the stimulative and inhibiting dosage is small. If this is the case, the determination of this level would have to be found by a large number of trials. — C. R. Thompson, Western Regional Research Laboratory, Albany 9, Calif.

MODERATE AND COMPLETE SCARIFICATION OF KUDZU AND PERENNIAL LESPEDEZA SEED

The degree of scarification of kudzu, sericea, and bicolor lespedeza seed has been important in securing stands on Soil Conservation Service nurseries in the Southeastern United States.

Seed are considered to be moderately scarified when about 50% swell in water during 24 hours and completely scarified when practically all swell during the same time.

Completely scarified seed have behaved erratically in field seedings without irrigation. Excellent stands have been secured when moisture conditions were good for seed swelling, emergence, and establishment. Poor stands have been secured when drought prevented emergence or establishment. No reserve seed were left for later germination when better moisture conditions might occur.

Moderately scarified seed have generally given good stands in field seedings. The seed immediately pervious to water germinate and become established if moisture conditions continue good after the seeding date. If a drought prevents their emergence and establishment,