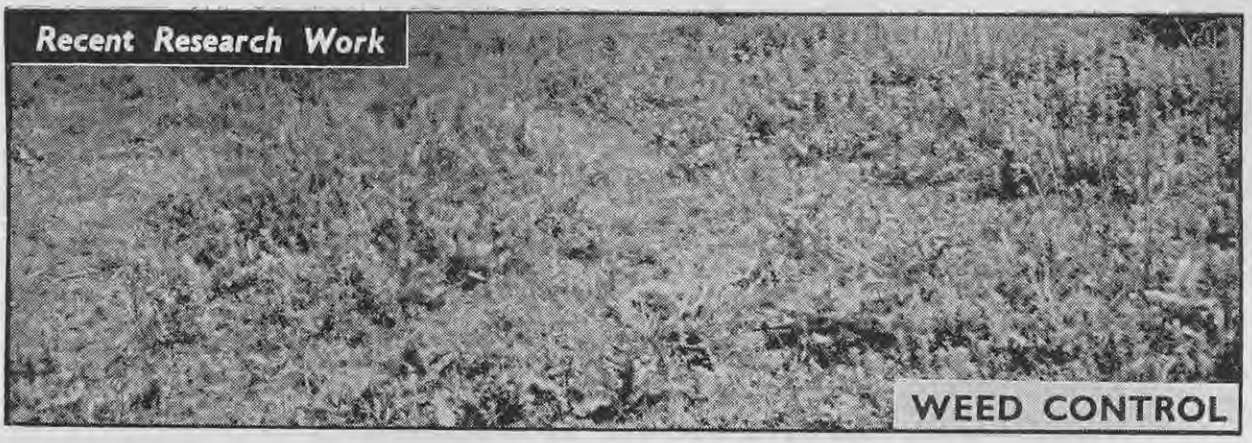

CONTROL of weeds with weedkillers is becoming general practice in pasture and crop production and land development. These notes summarise recent trials on the control of woodsage and spurrey.

WOODSAGE

EXPERIMENTS carried out over 2½ years with hormone weedkillers in treating woodsage (*Teucrium scorodonia*), a weed that has become troublesome in the Waitotara Valley, have shown that effective control can be obtained. Woodsage has a vigorous underground rooting system which in spring sends up a dense mass of shoots which grow to about 2ft. high by midsummer and virtually take charge of the ground. As winter approaches the growth dies down and the plant becomes dormant in much the same way as Californian thistle. In general colouring woodsage is rather like horehound and is often mistaken for it.

The hormone weedkillers used in the experiment were the ethyl ester of 2,4-D, the amine salt of 2,4-D, and the butyl ester of 2,4,5-T. These were applied at 2lb., 4lb., and 6lb. acid equivalent per acre in quantities of water ranging from 100 to 180 gallons per acre. A relatively large quantity of water was required because of the dense nature of the weed and the necessity of getting a cover of spray on the lower leaves as well as on the growing point of the plant. In preliminary trials quantities of 40 and 80 gallons of water per acre had given disappointing results. The experiments were put down in spring, summer, and autumn to ascertain the best period of the year for spraying. The growth of the foliage was 4in. to 6in. high at the spring application and 18in. to 2ft. high at the summer and autumn applications. The spray was applied with a knapsack sprayer through a 32 nozzle.

Useful kills were obtained at all three periods, the spring application being best. The spring treatment had the added advantage that a relatively smaller quantity of water was required (100 gallons as compared with 180) to give a good cover of spray on the foliage; this was because of the shorter growth. The ethyl ester of 2,4-D gave a slightly better kill than the amine salt of 2,4-D and the butyl ester of 2,4,5-T, the 4lb. acid equivalent rate (95 per cent. kill) being much better than the 2lb. and basically the same as the 6lb. A repeat treatment of 2lb. acid equivalent of the ethyl ester of 2,4-D in 40 gallons of water the following spring gave complete control on the plots originally treated with 4lb. and 6lb.

The recommendation from these experiments is to spray with 4lb. acid equivalent per acre of the ethyl ester of 2,4-D in 100 gallons of water in spring when the average growth of the woodsage is 4in. to 6in. high. In the following spring 2lb. acid equivalent should be applied in 40 gallons of water. The spraying should be delayed until the average growth is 4in. to 6in. high to ensure that any late shoots are through the ground. The application of 100 gallons of water to the acre on a field scale necessitates the use of a power sprayer; water supply presents no great difficulty, because the weed is predominantly on alluvial country adjacent to the river. It is desirable to drive the spray on to the foliage from the side rather than from directly above, because spraying from immediately overhead tends to wet only the top two or three leaves of the plant.

—A. A. DUNCAN

HEADING PHOTOGRAPH: River flat paddock in Waitotara Valley infested with woodsage, buttercups, and docks.

* * * *

SPURREY IN RAPE

TRIALS on the pre-emergence control of spurrey (*Spergula arvensis*) in rape with T.C.A. (sodium salt of trichloroacetic acid) and I.P.C. (isoprophyl-N-phenyl carbamate) were conducted on farms near Gore during the past season. The treatments were T.C.A. at 5lb., 10lb., and 20lb. per acre and I.P.C. at 1lb., 2lb., and 4lb. acid equivalent per acre. These treatments were replicated. Two pounds of club root resistant rape seed was ridged with 4cwt. of turnip manure per acre on a paddock which lay away from the sun, was inclined to be wet, and was heavily infested with spurrey seed. The weather was dry at the time of sowing, but there was sufficient soil moisture for good germination and establishment of the sown crop. The crop was sown on 16 December 1952, and the trial laid down the following day.

Both T.C.A. and I.P.C. were applied, with a knapsack spray, with water at 80 gallons per acre. The rape germinated well in less than a week and apparently suffered no ill effects from the weedicides. Owing to the continuance of dry conditions, spurrey did not appear for some days after the rape, but when rain came there was rapid growth.

The plots treated with T.C.A. and the control plots became heavily infested with the weed. I.P.C., however, was more effective. The 2lb. application noticeably suppressed spurrey; the 4lb. application gave complete control and there was no spurrey growth on this treatment throughout the duration of the trial. In particular, there there was no visible effect on rape and growths compared with that of control plots appeared normal. Lambs showed neither preference nor distaste for the treated plots.

—T. L. REID

* * * *

LUCERNE

T.C.A. formed the main treatment for recent weed control trials on lucerne. In a few trials forms of I.P.C. were also included. All treatments were applied when the lucerne was dormant. The T.C.A. applications gave good control of both annual and rhizomatous grasses, but reduced the yield of lucerne in the first cut after treatment. The I.P.C. treatment did not retard lucerne growth, but effective grass control was not always obtained. These trials show that grasses can be kept out of newly sown stands of lucerne, but that yield reduction of the lucerne occurs up to the first cut when old weedy stands are renovated by the use of T.C.A.

—L. J. MATTHEWS