principle per pound of dust. The acid equivalent is the standard for comparison of the potential weedkilling materials in the various formulations. Table 4 shows that one acre of variegated thistle seedlings may be controlled with 0.5lb. of acid equivalent per acre of a water-based salt. This means that if a salt listed in Table 1 contains 3lb. of acid equivalent per gallon, 1 gallon of this product would control 6 acres of young variegated thistle.

Application

Very often weeds requiring treatment are so scattered that an over-all spray is not warranted. In these conditions the rates given in Table 4 may be converted into a spray mixture concentration showing parts per million (p.p.m.) of the hormone in water (see Table 2). The plants should be spot treated with the spray concentration indicated, and a complete foliage and stem cover should be secured, especially for woody perennials.

GRASS-WEED KILLERS

Unlike hormone weedkillers, which control broad-leaved flowering weeds and are non-toxic to grasses, the grass-weed killers T.C.A. and I.P.P.C., two new forms recently developed, control grasses and are relatively non-toxic to broad-leaved flowering plants at normal rates of application.

Table 3 gives details of these preparations.

TABLE 2—CONVERSION OF ACID EQUIVALENT INTO PARTS PER MILLION (P.P.M.) OF HORMONE IN WATER

Acid equivalent of products	Pints of products to be added to 100 gallons of carrier			
(See Table 1)	1000 p.p.m.	2000 p.p.m.	3000 p.p.m.	4000 p.p.m.
1.0	8	16	24	32
2.0	4	8	12	16
3.0	2 2/3	5 1/3	8	10 2/3
4.0	2	4	6	8
5.0	1 3/5	3 1/5	4 4/5	6 2/5

TABLE 3—NEW GRASS-WEED KILLERS

Type	Formulation	Acid equivalent per lb.	Form of weedkiller
T.C.A.	Sodium salt	79.3 per cent.	Water soluble powder
I.P.P.C.	Ester	Approx. 1lb. Approx. 1lb. Approx. 1lb.	Oil Wettable powder Dust

Chemical control of ragwort. Upper left—Ragwort is eradicated with hormone weedkillers if the first application is made when the flower stalk bolts from the rosette, the stage illustrated. Upper right—An area which was infested with ragwort and which has had the initial application with water-based salts and amines (left) compared with an untreated area (right). Lower left—If plants are sprayed at the seed-head stage, especially with water-based salts and amines, results are disappointing. Best results are obtained with oil-based esters. Lower right—Stem twisting and leaf kill of mature plants as a result of being sprayed with an ester preparation. Such late treatment often results in the formation of viable seed and strong regrowths.