HERBICIDES FOR NON-CROP AREAS

CHARLES H. PARKERSON

Lancaster Farms, Inc.
Suffolk, Virginia 23435

Weeds in the aisles, along edges of growing beds, around buildings, and along fence rows are unnecessary and detrimental. The immediate effect is an unsightly appearance of uncleanliness; weeds cost money, harbor insects and diseases, and are a wonderful source of seed for your container stock.

Our nusery is similar to yours in many ways but vitally different in many respects. What I am about to share with you works for us, in our particular micro-climate. What I do may work for you . . . but it may *not*, so check it out first. I am sure that most of you are in the same position that we are in . . . everything that you own is sitting out in the field, so run your own trials before spraying a chemical that you have heard or read about. The herbicides we use only work when applied in a timely and accurate manner. In general we use the following chemicals for weed control in noncrop areas: Pramitol 25E, Paraquat CL, and Roundup.

Pramitol 25E. This chemical is a soil sterilant causing the soil to be unproductive for approximately a year or longer. This material is a non-selective herbicide that is applied with water before or after plant growth begins. Use only in areas where complete control of all vegetation is desired. Most of its activity occurs through root absorption, therefore, its effectiveness is depending on movement into the root zone. It should not be used on land that is near desirable trees or shrubs because plant injury will occur. One year I treated next to a poly house containing 1 gallon pyracantha. Roots came out of the bottom of the pots and entered the treated area; next summer the plants were killed. We apply Pramitol with a watering can at the rate of 1 pt/3 gal of water, which covers about 200 sq. ft.

Paraquat CL. I am sure that everyone has had experience with this contact herbicide. It kills both broad-leaf and narrow-blade weeds; in fact it is our experience that it burns back anything if it is green and growing. The killing action is unique in that it interferes with photosynthesis. Once a plant cell is contacted there is cell collapse, and death is very rapid. The roots of plants are not affected because the chemical deactivates on contact with soil. There is no soil sterilization. When you are spraying, weeds should be covered uniformly, not drenched. Spraying under windy conditions should be avoided because a little drift will burn adjacent desirable foliage. Paraquat is mixed at the rate of 1 qt/50 gal of clear water. A good spreader at the rate of 4 ozs/50 gal is added.

For spraying we use a tractor-mounted PTO roller pump set at no more than 40 psi, to deliver material to a Tee Jet 8004 flat spray tip nozzle. Our man simply drives the tractor along and sprays using a hand wand.

Paraquat seems to work best when applications start early in the spring and are kept up during the growing season. In order for us to keep bermuda grass under control we must spray every two weeks from spring to fall.

We do like Paraquat but the need for repeat applications is very time consuming and costly.

Roundup. If you have not yet had a chance to try this herbicide get some. I know that you will like what you see. We are more and more impressed each time we use this chemical.

Roundup is a foliar-applied systemic herbicide. When properly applied, Roundup controls a wide variety of annual and perennial weeds. This chemical is translocated from the actively growing leaf and stem surfaces of the weed and travels down the stem to the root or rhizome. Roundup circulates throughout an entire plant, killing it and preventing any regeneration from plant parts below the soil surface.

As effective as Roundup is on weeds, it has no activity in the soil. There is no residual soil activity.

We use Roundup at the rate of 2 qts/50 gal of clean water. No additional surfactant is added since the formulation contains the proper amount of wetting agent. For best results spray coverage should be uniform and complete. You must cover the weed to get control almost to the point of runoff. The same equipment is used as for Paraquat application.

The label of this material is quite extensive and I will not try to cover it all in this paper . . . BEFORE USING, READ THE LABEL . . . ALL OF IT.

Roundup spray solutions should be mixed, stored, and applied only in stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers. Do not use galvanized steel or unlined steel containers or spray tanks. Roundup spray solution may react with such containers and tanks to produce hydrogen gas which forms a highly combustible gas mixture that could explode.

Roundup is specific for grass control, but we have had good luck with the herbicide on broad-leaf, hard-to-kill weeds. Around our irrigation ponds we had a problem with Swamp willow (*Salix* sp.) that defied our every effort to control. Two applications of Roundup at the above rate gave us complete control of this pest.

Roundup costs a little more than Paraquat but the long last-

ing effects and the less frequent applications make this herbicide a more economical material for our operation.

Some research has been done on using dilute amounts of Roundup over the tops of established plants to clean up weeds. Self (1,2) and Whitcomb (3) have had good results with this process. We have tried to duplicate some of their work but, to date, we have not been successful. We have either killed the plants or not obtained weed control. I am sure that when rates and usage are refined, Roundup will be used quite widely in the nursery industry.

Roundup, as we see it, is one of the best new herbicides to come our way in a long time. It is a material that I am sure you will find to your liking.

LITERATURE CITED

1. Self, R.L., 1975. Screening Test with Glyphosate on Woody Ornamentals. *So. Nurs. Res. Conf. Proc.* 19:118-119.
2. _____ and C.T. Pounders, Jr., 1976. Weed Control and Phytoxicity Studies on Container-Grown Ornamentals. *So. Nurs. Res. Conf. Proc.* 20:117.
3. Whitcomb, C.E., T.W. Goodale, R.D. Hathaway and J.D. Ward, 1976. Controlling Common Bermuda Grass With Hand-Applied Applications of Roundup, Nursery Research Field Day, Agri. Exp. Sta. Oklahoma State Univ. Research Report #P-741 p.19.

AFTER TRIALS WITH HERBICIDES, A DECISION IS MADE

CURTIS W. WILKINS and GRADY L. WADSWORTH

Greenleaf Nursery Co.
El Campo, Texas 77437

Abstract. Nine herbicides were evaluated for their effectiveness in reducing weed growth in twenty cultivars of containerized nursery stock. Alachlor at 4 lb ai/A and 6 lb ai/A and 4 lb ai/A showed generally the least amount of phytotoxicity but also demonstrated the poorest weed control of all nine herbicides evaluated. Profluralin at 6 lb ai/A and 9 lb ai/A gave fair weed control and only slight damage to the plant materials. Tests with napropamide at 6 lb ai/A and 8 lb ai/A indicated fair to poor weed control followed by moderate damage. The combination of alachlor at 4 lb ai/A and 6 lb ai/A with trifluralin at 4 lb ai/A and 6 lb ai/A, respectively, demonstrated moderately effective weed control with slight to moderate plant damage. Oxadiazon at 2 lb ai/A and 4 lb ai/A in granular, wettable powder, and emulsifiable concentrate forms showed excellent weed control, but also moderate to excessive damage to nursery stock. Alachlor at 4 lb ai/A and 6 lb ai/A combined with simazine at 1 lb ai/A and 1.5 lb ai/A, respectively, gave poor weed control with only one application during the growing season. However, with two applications, weed control was excellent, but damage was excessive.