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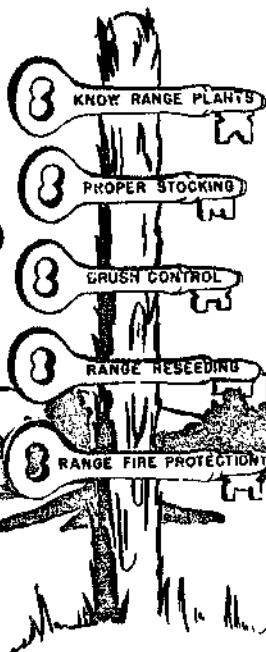
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# USE ALL KEYS FOR SUCCESSFUL RANGE MANAGEMENT



Cooperative Extension Work in Agriculture and Home Economics, The Texas A. and M. College System and the United States Department of Agriculture Cooperating. Distributed in furtherance of the Acts of Congress of May 8 and June 30, 1944.

## NEW INFORMATION CONCERNING THE USES OF 2,4-D AND 2,4,5-T FOR BRUSH AND WEED CONTROL ON RANGELANDS

RM-3-1

G. O. Hoffman and B. J. Ragsdale  
Extension Range Specialists  
College Station, Texas  
May 23, 1960

. . . . . Read . . . . . Study . . . . . Comply . . . . .

Herbicides are important tools in the overall brush and weed control practices for range improvement and have made the control of competitive plants economical on large acreages. However, they are precision tools which require the best and latest information for successful use. As in other fields of pest control, it is essential that these chemicals be used so that no harmful residues remain in the livestock products.

We want to impress the general public and users with the need of proper use of herbicides so there will be no possibility of residue. It is essential that we stress the positive side of herbicide use and avoid creating confusion and hysteria. This can be accomplished by emphasizing the safe use of herbicides at all times.

The partial summary for uses of herbicides published April 19, 1960, did not cover the uses of 2,4-D and 2,4,5-T for brush and weed control on rangelands. To date tolerances or exemptions from a tolerance have not been set for 2,4-D, 2,4,5-T and other phenoxy herbicides used on rangelands or native forage used by grazing animals. The exact status of 2,4-D and 2,4,5-T as it relates to provisions of federal laws may be cleared up in a few months as the United States Department of Agriculture has made arrangements to test 2,4-D for residues on pastures and forage crops. Also, cattle feeding tests of 2,4-D and 2,4,5-T at the U.S.D.A. Experiment Station, Kerrville, Texas began early this year, but it will be some time before results are available.

Past use of these chemicals has given no indication that they are toxic to livestock and it is felt that there will be no harmful residue when used as recommended in accordance with directions on the label.

We suggest studying completely MP-437, "Safe Use of Chemicals in Agriculture", for explanation of federal laws and amendments regulating the use of agricultural chemicals, particularly herbicides. Also, the policy and responsibilities of the A & M College System are given.

Quoting from MP-437, page 12, concerning the present status of 2,4-D and 2,4,5-T:

The legal status of some herbicides, which have been in use for over 10 years, needs to be clarified under the provisions of Public Law 518. 2,4-D is registered by the U.S.D.A. under the provisions of the Federal Insecticide, Fungicide and Rodenticide Act for use on a number of crops, including post-emergence weed control in pastures, small grains, corn and sorghum. Likewise, 2,4,5-T is registered for woody plant control on rangeland. Officials of the U.S.D.A. have issued a release stating that they have been accepting registrations for these uses on a no-residue basis and plan to continue such registrations. The primary criterion to follow in using a no-residue chemical is to insure that the pesticide is not found in the harvested or grazed product. Recommendations with regard to timing of applications are most important in this respect.

This means that U.S.D.A. has registered the herbicides on a no-residue basis for use as indicated on the label of the chemical. However, the Food and Drug Administration has not established an exemption or a tolerance level for these herbicides for use on pastures and rangelands.

WE NEED TO POINT OUT THE SITUATION TO THE RANCHERS BY EXPLAINING THE A & M COLLEGE SYSTEM NO-RESIDUE POLICY, THE POSITION THAT U.S.D.A. IS TAKING, AND WHAT F.D.A. CAN DO IF THEY DECIDE TO CHECK LIVESTOCK PRODUCTS FOR HERBICIDAL RESIDUE. \* \* \* \* \* WE CANNOT AFFORD TO HAVE LIVESTOCK PRODUCTS CONFISCATED BECAUSE THE USER DID NOT UNDERSTAND THAT THE HERBICIDES WERE NOT CLEARED BY F.D.A.

It is not safe at this time to recommend herbicides on pastures or ranges which are grazed by dairy cattle. There is less danger of a residue remaining in meat products sold from animals grazing on ranges and pastures treated with herbicides, as the animals are marketed 2 to 5 months after the areas are treated. In most cases, beef calves go to the feed lot for finishing, but sheep and goats usually are slaughtered. If animals are to be sold for immediate slaughter, it is suggested that they not graze treated areas while there is a likelihood of a residue remaining on the forage.

WE ARE RECOMMENDING STRONGLY THAT TREATED AREAS BE DEFERRED FROM GRAZING DURING THE GROWING SEASON FOLLOWING TREATMENT. There is no exact data indicating that there would be no residue if deferred for this period, but information indicates herbicides disintegrate rapidly when exposed to weathering. \* \* \* \* \* There is little danger of having a herbicidal residue on grass when the individual plant treatment method is used, as the chemical solution is applied directly to brush and pricklypear plants with hand applicators and not to the entire area. Also, livestock do not graze the treated individual plants.

DEFERRED GRAZING of the controlled areas serves two purposes: (1) aids in the re-establishment of grasses and (2) reduces the possibility of any 2,4-D or 2,4,5-T residue remaining on the forage when livestock are allowed to graze the treated area.

NOTE: AT PRESENT, WE DO NOT HAVE POSITIVE INFORMATION TO SHOW THE LENGTH OF TIME ANIMALS SHOULD BE REMOVED FROM TREATED AREAS TO INSURE THAT NO HERBICIDAL RESIDUE WILL BE PRESENT IN THE ANIMAL PRODUCTS. \* \* \* \* \* STRESS THAT THE USER ASSUMES ALL RISKS WHEN APPLYING HERBICIDES FOR BRUSH AND WEED CONTROL ON RANGELANDS.

You will be informed immediately when new information is released from U.S.D.A. and F.D.A. about any herbicide used for brush and weed control on rangelands.

GOH:BJR:pel  
May 23, 1960

## EFFECTIVE RATES OF APPLICATION

As indicated in Director Hutchison's letter of May 18, 1960, specific recommendations will be prepared by subject matter areas for the safe use of chemicals. We have checked information in MP-437 and the labels of the chemicals to determine if existing rates of application in Extension Range publications are in agreement. The chemicals must be used as indicated in the previous pages, but with good sound range management practices. Controlling competitive plants for re-establishment of grass and increased carrying capacities is sound range management.

The rates of application of herbicides as listed in Extension Range publications are sound and effective rates as they have been proved by Texas Agricultural Experiment Station research personnel.

The rates of application, as recommended on the labels of the herbicides, have been proved by research personnel of the Land-Grant Colleges, Agricultural Research Service and chemical companies. Rates of application for brush and weed control as listed in Extension range management publications are equal to or less than the manufacturer's recommended rates on the label of the herbicide.

This is a summarized review of herbicides and per acre rates of application required for effective control of brush and weeds on rangeland, native pastures and native grass reseeded areas. Restrictions as set forth in this summary must be followed. Information on control of plants not listed in this summary should be cleared through this office. The following release should be used as a supplement to existing range publications:

### Aerial or Broadcast Application Treatments

Refer to: B-935; B-942; MP-386; L-415

Mesquite      1/2 pound 2,4,5-T low volatile ester in 1 gallon of diesel oil and water to make 4 gallons of solution per acre applied in 42 foot swaths. In the Panhandle 3 gallons of diesel oil as the carrier has been effective. As a general rule, a solution of straight diesel oil burns the leaves too rapidly. Mesquite leaves must be a dark green color before the chemical spray is applied.

Post and      1st spraying -  $1\frac{1}{2}$  pounds 2,4,5-T low volatile ester  
Blackjack      or  $1\frac{1}{4}$  pounds silvex in 3 gallons water and diesel  
Oaks           oil to make 4 gallons solution per acre.

2nd spraying - 1 pound 2,4,5-T or 3/4 pound silvex per acre with oil-water mixture as 1st spraying applied in 42 foot swaths.

- Hardwoods and Pine release 1st spraying - 1-1/2 to 2 pounds 2,4,5-T low volatile ester in 1 gallon diesel oil and water to make 5 gallons solution per acre.
- 2nd spraying - 1 pound 2,4,5-T in 1 gallon diesel oil and water to make 5 gallons solution per acre. Applied in 42 foot swaths.
- Sand Shinnery Oak 1/2 pound 2,4,5-T low volatile ester or silvex in 1 gallon of diesel oil and water to make 4 gallons solution per acre applied in 42 foot swaths. In some areas of the Panhandle 3 gallons of 1:4 oil-water emulsion or straight diesel oil solution has been effective; but overall 4 gallons solution per acre has been most effective.
- Yucca 2/3 pound silvex (2,4,5-T Propionic) in 1 gallon diesel oil and water to make 4 gallons solution per acre in 42 foot swaths. Two to three applications may be needed to give effective control. Four gallons of straight diesel oil per acre has been effective but very little more than the emulsion. Where mesquite and yucca grow in a mixed stand, control the mesquite first. Then the next season spray the yucca as more complete coverage and better control can be obtained.
- Whitebrush 1-1/4 pounds MCPA with 1 gallon diesel oil and water to make 8 gallons solution per acre in 42 foot swaths with no overstory of other brush. \* \* \* \* \* MCPA has been the only herbicide -- proved by recent research -- to give consistent effective control. \* \* \* \* \* The label of MCPA does not carry this recommendation and until the U.S.D.A. registers MCPA for whitebrush control and F.D.A. takes official action on it, we only can suggest this control measure.
- Post, Blackjack Oak, Winged Elm 16 pounds fenuron pellets per acre applied broadcast. \* \* \* \* \* Remove livestock from broadcast treated area for 90 days.
- Native Pastures 1 pound of 2,4-D low volatile ester in 15-25 gallons water per acre in less than 30 inch rainfall area and 1 pound 2,4-D amine in 15-25 gallons water per acre in more than 30 inch rainfall area, applied with power ground sprayers using 40 pounds of pressure or less. Spray weeds when 4 to 6 inches tall and good growth conditions exist. Defer during growing season following control.

Native Grass            1/2 pound of 2,4-D low volatile ester or 2,4-D amine  
Reseeded Areas        in 15-25 gallons water per acre, applied with power  
                         ground sprayers using 40 pounds of pressure or less.  
                         If the grass is for seed production, use 2,4-D amine  
                         as it causes less leaf burning. Defer during the  
                         growing season.

Perennial                No recommendation is available at the present time.  
Broomweed

Individual Plant Treatments

Pricklypear,            8 pounds 2,4,5-T low volatile ester in 100 gallons  
Tasajillo,              diesel oil and treat both sides of each pad, stem,  
Cholla, Other          and trunk with the solution to the point of slight  
Cactus                  run-off. Refer to B-806, "Pricklypear Good or Bad".

Woody Plants            Refer to L-414, "Brush Control with 2,4,5-T", and  
                         L-413, "Brush Control with Ammate", for specific  
                         mixtures and times of application.

GOH:BJR:pe1  
May 23, 1960