

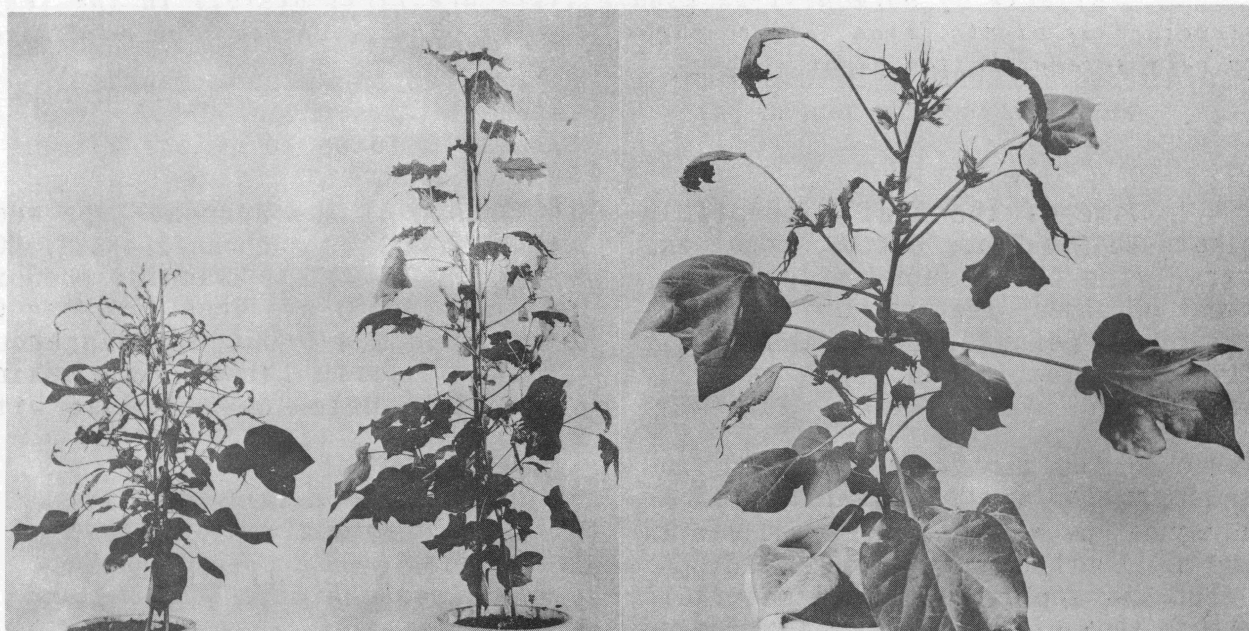
DANGERS IN USING HORMONE-TYPE WEED AND BRUSH KILLERS

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The weed killer, 2,4-D was introduced about 10 years ago to control certain broad-leafed weeds and pest plants. This material is of considerable value to rice growers, small grain farmers and ranchmen. However, chemicals which kill weeds and objectionable plants may injure or kill certain desirable crops and plants. No chemicals are so specific that they will kill *only* objectionable plants such as weeds.

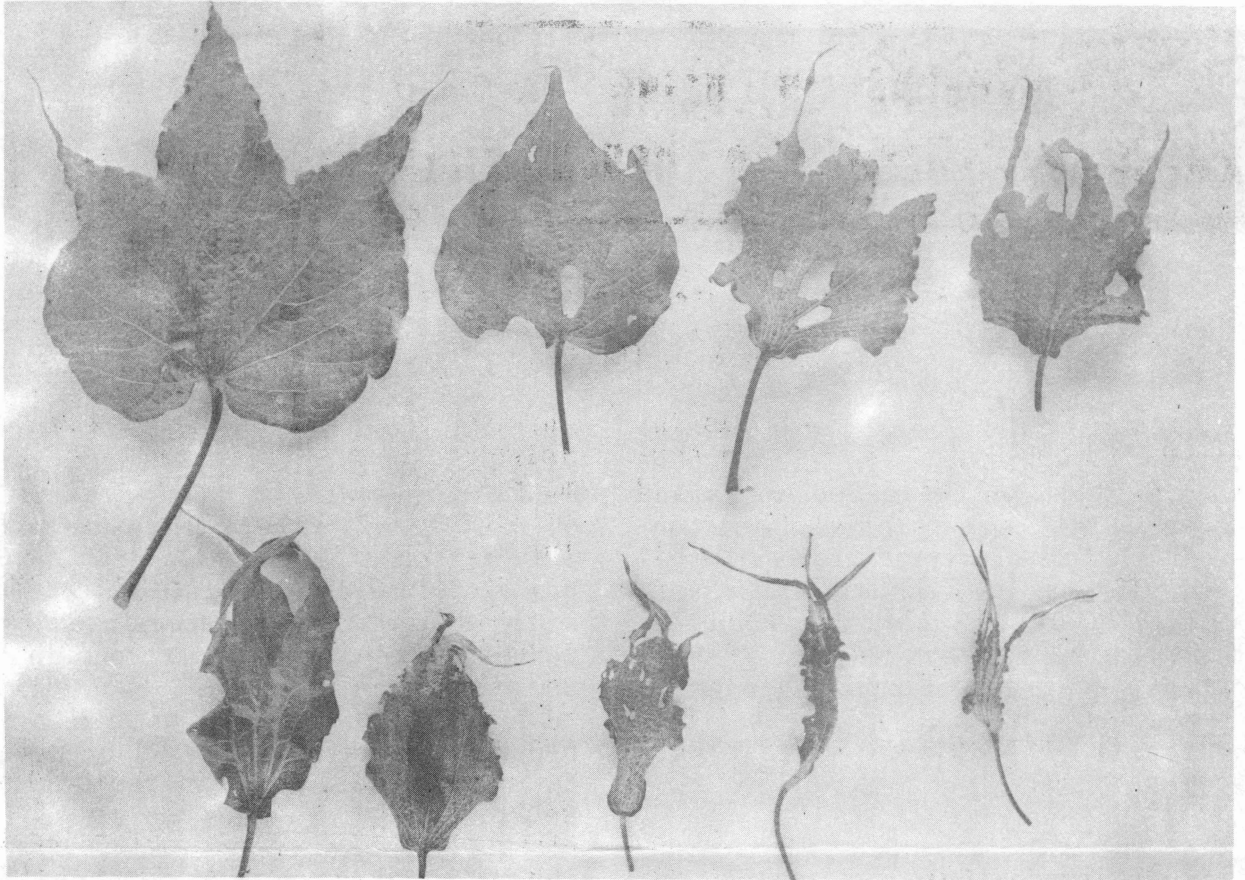
The use of 2,4-D by farmers and ranchers to control or eradicate undesirable plants has caused damage to other crops, gardens, trees and shrubs

through the drifting of 2,4-D onto neighboring properties. Even in amounts too small to be seen as a fog or mist, 2,4-D can cause damage. Injury may occur, therefore, far beyond any visible drift of 2,4-D spray. Most of this damage could have been prevented if published precautions in the use of 2,4-D materials had been followed. Any crop treated with a 2,4-D preparation may be damaged by application at certain times or by overdoses. Be sure that you know fully of the precautions to be taken before applying 2,4-D or any other hormone-type of weed and brush killer on any lawn, garden, field, brush or grass area.



(1)

Varying degrees of damage caused by hormone-type weed killers. Left to right, extreme damage, moderate, very slight.



(2)

Effects of hormone-type weed killers are first visible in the leaf structure of plants. From left to right, top row, damage varies from no damage to very severe, bottom right.

Some of the most susceptible plants to 2,4-D are cotton, tomatoes, okra, vine crops such as cucumbers, sweet potatoes, legumes such as black-eye peas, peanuts, snapbeans, fruit trees, grapes, pecan trees and many ornamentals.

Serious damage has resulted from uncontrolled use of 2,4-D and other hormone-type weed and brush killers in the neighborhood of susceptible crops. Users and applicators of such materials expose themselves to claims for damages where the chemical drifts onto susceptible plants belonging to other persons.

Some of the hormone-type weed and brush killers such as 2,4,5-T, MCP and 2,2,4-TP (2,2,4-Trichlor phenoxy Propionic Acid) are less damaging to crops than 2,4-D but are dangerous enough to necessitate the user taking precautions similar to those with 2,4-D.

PRECAUTIONS

1. Do not use 2,4-D in dust form under any conditions. These fine dusts drift easily and far.

2. The highly volatile ester forms of 2,4-D and other hormone-type weed and brush killers are not recommended. They give off fumes readily which will cause damage some distance downwind.

Non-volatile and very low volatile esters may be used with due consideration given for wind drift.

3. Small liquid spray particles drift several miles in air currents. Dust blowing from a field previously sprayed with 2,4-D may carry harmful particles. Delayed drift effects may occur following changes in wind direction.
4. For ground sprayers, nozzles producing coarse particles are most

desirable; use pressures below 40 pounds per square inch; do not apply in wind velocity greater than 5 miles per hour when susceptible crops are within 2 miles downwind or 1/8 mile upwind (to susceptible crops) (See Sections 3 and 5.) Fine sprays from even hand or ground sprayers may drift to nearby fields, gardens and trees. Do not use ground or hand sprayers that produce a fine mist or fog near any susceptible crops.

5. 2,4-D should not be released from an airplane at altitudes higher than 10 feet when wind velocities are greater or the distance from susceptible plants less than those listed below:

Wind velocity	Minimum distance from susceptible crops	
	Downwind	Upwind
0 to 3 miles per hour	1 mile	1/2 mile
4 to 6 miles per hour	2 miles	1/8 mile
7 to 10 miles per hour	4 miles	250 feet

6. Airplanes should not be used to apply 2,4-D in communities having small fields of susceptible and nonsusceptible crops. In mixed crop communities, it is extremely difficult to meet the conditions set forth under paragraphs No. 4 and No. 5.
7. Use separate equipment for 2,4-D. It is extremely difficult to clean 2,4-D from a sprayer used for applying fungicides or insecticides. A mere trace of 2,4-D in an insecticide or fungicide may damage seriously a susceptible field, garden crop or ornamental.
8. 2,4-D should not be stored in any building in which seeds, fertilizer, fungicides or insecticides

are stored or handled because of the danger of contamination.

9. If applications are made by airplanes, be sure that the operators have properly functioning equipment and will apply the spray only when conditions set forth in this publication are met. The height of spray release should not exceed 10 feet for crops. For brush, the spray release should not be over 15 feet.

If these precautions are followed, damage will be lessened considerably in the use of 2,4-D.

Always consult your county agent before using 2,4-D.

FOR FURTHER REFERENCE WRITE TO THE AGRICULTURAL INFORMATION OFFICE OR ASK YOUR COUNTY EXTENSION AGENT FOR:

- Bull. 721 (Revised) - Recent Development in the Chemical Control of Brush on Texas Ranges
- FB 2995 - Using 2,4-D Safely
- P.R. 1115 - Experiments With 2,4-D for Controlling Weeds in Rice Fields in Southeastern Texas in 1947
- P.R. 1279 - The Effects of 2,4-D on Bitterweed Seed Formation and Germination
- P.R. 1320 - Control Of Mesquite
- P.R. 1334 - Experimental Control of Poisonous Range Plants in Texas
- P.R. 1338 - Chemical Control of Weeds in converting Pasture Land to Tomato Production in East Texas
- P.R. 1462 - Reaction of White Brush to Growth-Regulator Herbicides
- P.R. 1465 - Mesquite Control, Cooperative Ranch Tests, 1950-51
- P.R. 1474 - Peavine--A Poisonous Range Plant in Texas
- P.R. 1561 - Responses of Lindheimer Prickly Pear to 2,4,5-T and Other Herbicides
- P.R. 1612 - Oak Control Studies at the West Cross Timbers Experiment Station
- P.R. 1634 - Control of Threadleaf Broomweed with Selective Herbicides
- P.R. 1661 - Forage Production in Oak Woodland as Influenced by Removal of Tree Cover
- P.R. 1678 - Responses of Rice to Some Herbicides

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