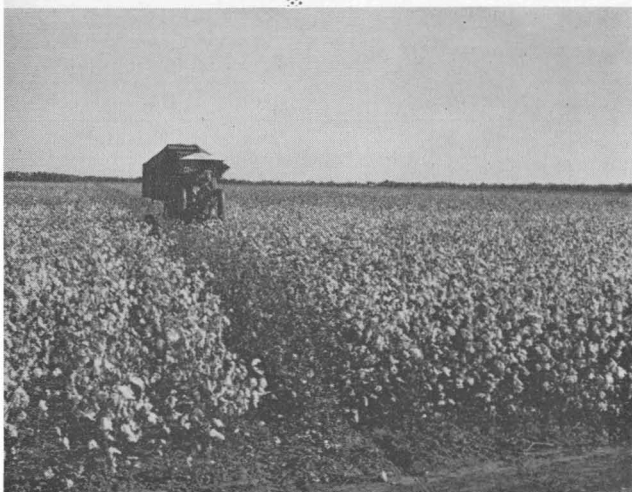


COTTON
DEFOLIATION
GUIDE



for Texas

GUIDE FOR USE OF DEFOLIANTS—1960

Effective March 5, 1960, defoliants and desiccants came under the regulations of Public Law 518. The materials listed in this summary have been granted an extension to March 5, 1961. No claim is made that this list is complete and others may be added as extensions are granted or as tolerances are set or as exemptions from tolerances are granted under the regulations of PL 518.

Chemical name	Name of defoliant	Percent active ingredient(s)	Rate per acre	Dilution information
— DUSTS —				
Calcium cyanimide	AERO cyanamid	57	30-40 lb.	None
Sodium chlorate	Shed-A-Leaf "D"	50	20-25 lb.	None
Sodium metaborate	White Frost	50	25-40 lb.	None
— SPRAYS ¹ —				
Magnesium chlorate (anhydrous and hexahydrate)	Mathieson M	28.1	2 gal.	7-10 gal. water per acre by air, 15-25 by ground.
	General Chemical E-Z Off Liquid Defoliant	18.15	1½-2 gal.	5-7 gal. water per acre by air, 15-20 by ground.
	Ortho M-C	58	7-10 lb.	10 gal. water per acre by air, 10-20 gal. by ground.
Sodium chlorate-Magnesium chloride	Penco De-Fol-ate	41.5-27.5	7-10 lb.	10 gal. water per acre by air, 15-25 gal. by ground.
	Penco Liquid De-Fol-ate	19.6-13.0	1½-2 gal.	5-10 gal. water per acre by air, 10-30 gal. by ground.
	Niagara M.C. Defoliant	41.5-27.5	7-10 lb.	5-10 gal. water per acre by air, 15-25 gal. by ground.
Sodium chlorate Sodium metaborate	DePester Defoliant	19.0	1½-2 gal.	Use 2-10 gal. water per acre by air, 8-10 gal. water by ground.
	Drop-Leaf	18.5-12.0	1½-2 gal.	4-7 gal. diluted solution by air, 5-10 gal. by ground.
	Fall	18.5	1½-2 gal.	Dilute with water, apply 1 gal. solution per foot of plant height.
	Mission Brand Defoliant	18.5	1½-2 gal.	Use 7-10 gal. water by air, 15-25 gal. by ground.
	Niagara Defoliant "L"	18.2	1½-2 gal.	Use 4-7 gal. water by air, 20-30 gal. by ground.
	Ortho Liquid Cotton Defoliant	18.2	1½-2 gal.	Use 4-7 gal. water per acre by air, 20-30 gal. by ground.
	Shed-A-Leaf	40-60	7-10 lb.	7-10 gal. water per acre by air, 25-40 gal. by ground.
	Shed-A-Leaf "L"	18.5	1½-2 gal.	5-10 gal. water per acre by air, 15-20 gal. by ground.
S,S,S-Tributyl Phosphorothrithioate	Def	62.5	2-3 pt.	Dilute with sufficient water to wet plants. Follow instruction on label.
Merphos	Folex	75.0	2-3 pt.	5-12 gal. water per acre by air, 15-25 gal. by ground. For drouth-stressed cotton, use 2 pt. in 3-5 gal. white diesel oil per acre.
— DESICCANTS FOR STRIPPER HARVEST ² —				
Pentachlorophenol	Leaf-Kil	38-2.0-30-30	2 qt.	Add to 4½ gal. diesel fuel or kerosene. Apply this 5 gal. with 3 nozzles per row at 40 p.s.i. at tractor speed of 4 mi. per hour.
	Golden Harvest Crop Dryer	44	2-3 qt.	Dilute with No. 2 fuel oil. Apply 1 gal. of solution per ft. of plant height.
	Permaguard Defoliant Concentrate	40	1-2 qt.	3-6 gal. diluted solution per acre using distillate, fuel oil, diesel fuel or kerosene.
	Stauffer Penta Concentrate	40	2-3 qt.	Follow directions on label.

¹Tests during the last season indicated that the inclusion of activators or spreaders, (1) Colloidal X-77 or (2) Multifilm "C", at the rate of 1½ pints per 100 gallons of field mixture gave some increase in leaf drop under conditions unfavorable to defoliation or desiccation such as moisture stress or cool weather. To our knowledge, only Colloidal X-77 and Multifilm "C" have been given an extension by Food and Drug Administration.

²Pentachlorophenol is primarily a desiccant rather than a true defoliant. Because of its severe action on plant tissues it should not be used on immature cotton. Use only when all bolls are fully mature and cotton is over 60 percent open.

WHEN TO APPLY

Defoliants, dusts or sprays should be applied at least 35 days after the period of maximum flower load. This permits maximum staple length development. Another way to time the application of defoliants would be 30 days after cotton quits making "cut out" or when the youngest bolls expected to make cotton are 30 days old. Make application 10 days or 2 weeks prior to intended picking date in Central and South Texas, and 2 to 3 weeks on the High Plains. When 50 percent or more of the bolls are open, it is safe for most defoliants to be applied. Desiccant applications should be made when over 60 percent of the bolls are open.

1. Dust Defoliants

Use dust defoliants when plants are wet with dew or adequate dew is forecast. Material must remain in moisture on the leaf for at least 2 hours; 4 or more hours of moist exposure give better results.

2. Spray Defoliants

Spray defoliants may be used in the absence of dews and at low humidities. Thorough coverage is essential.

Airplane spraying: Apply at rates given in the table. Swath widths should be limited to the wingspan of the plane. For uniform applications, a flag man is necessary.

Ground spraying: Use rates given in the table. Use in at least 25 gallons of water, depending on type of sprayer and extent of plant growth. Use fenders on tractor equipment in rank cotton. More efficient defoliation results when cotton is mature with leaves in a condition of activity, not wilted and not toughened by drouth or starved by lack of fertility; and where plant moisture is adequate and weather is warm and humid. Consider carefully all weather information, such as dew and humidity forecasts, temperature, wind velocity and rainfall from radio stations.

CAUTIONS

Defoliate only enough acreage to stay ahead of harvesting. A second application may be necessary in unusually rank cotton, or if plants are immature. This should be after leaves have fallen from the first application, usually 7 to 10 days. Read carefully and follow the precautions printed on the container labels. Avoid using any defoliant that is not labeled as to exact chemical content. Unknown defoliants may injure open fibers, unopen bolls or cause fire hazards at the gin. Wait 2 weeks before operating stripper harvesters after applying desiccants.

CARE OF EQUIPMENT

Before beginning application, it is suggested that spray tanks, pumps, lines and nozzles be thoroughly cleaned to remove sticky residues left by liquid insecticides. Flush spray machines with water after each day's operation.

SAFETY WITH CHEMICALS

The basis for the control program on farm chemicals is to prevent undue risk from residues of the chemicals in the raw agricultural product. Any defoliant or desiccant used eventually will have tolerances or an exemption from tolerances designated for its safe use or will be registered on a non-residue basis. Until official Federal regulations are issued governing the use of a specific defoliant or desiccant, it should not be used.

FRED C. ELLIOTT

Extension Cotton Work Specialist

GLENN BLACK

Associate Extension Cotton Specialist

The Texas A. & M. College System