

Picloram

I. Chemical:

Common Name: Picloram
Trade Name: TORDON 225E
Chemical Name: 4-amino-3,5,6-trichloropicolinic acid

II. Formulation:

TORDON 225E (picloram triisopropanolamine - 1 lb acid equiv./gal)

III. Study Identification:

Grumbles, J.B., and W.G. Wright. 1980. Deposition of herbicides from fixed-winged aircraft. Dow Chemical U.S.A., March 3, 1980 (EPA Acc. No. 266004)

IV. Study Title:

Spray Drift Droplet Spectrum and Field Evaluation (40 CFR 158.142)

V. Reviewer:

Robert W. Holst, Ph.D.
Exposure Assessment Branch
HED/OPP

22 July 87

VI. Approval:

Robert W. Holst, Ph.D.
Exposure Assessment Branch
HED/OPP

22 July 87

VII. Conclusions:

The information provided by these studies is supplemental. No specific data was provided in order to develop independent conclusions. Only cumulative percentage information was available and only for 0 and 165 feet (and in one instance 1320 feet) downwind. No information on the material collected by the high volume air samplers was available. Data for the spray drift droplet spectrum portion of the study was not provided.

VIII. Recommendations:

The background data must be provided for all of these studies in order that specific assessments of each of the studies within this overall study can be performed. The Droplet Spectrum Study must be repeated.

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IX. Background:

The Spray Drift Droplet Spectrum and Field Evaluation Studies were requested in order to quantify possible exposure of nontarget organisms to picloram.

X. Discussion:

Four chemicals were tested: triclopyr, picloram, 2,4,5-T and 2,4-D with picloram. The chemicals were applied to a level field in Vernon TX in 1977 using a Cessna Ag-Wagon. The carrier was either water or a diesel oil:water emulsion. In some instances, Nalco-Trol was also added to noted its on reducing the drift of the various chemicals.

The aircraft flew at 115 mph at an altitude of 10 feet and had swaths of 42 feet. Four swaths upwind of each other were made. The nozzles used were either D-5s, RD-7-45s, or RD-12-46s set at various angles from 0 to 90 degrees from the chord-line. Pesticide quantification was noted by deposition on mylar cards (4"x4"), through air impingers, or through high volume air samplers.

No specific data for each run was provided including deposition quantities, wind velocity, temperature, and relative humidity. The results were expressed as general findings taken from groupings of the data.

The general results were that drift increases with wind velocity and with increasing angle away from the chord-line. Nalco-trol will decrease the quantity of driftable material under some conditions. The droplet spectrum study was run with Linagraph and Kromecoat papers, neither of which proved suitable. The mass median diameter for the studies was calculated, but the basis for these calculations was not provided.

XI. One-Liner:

Not applicable.

XII. CBI Data Inclusion:

None: