



# NEW ZEALAND AGRICULTURAL ENGINEERING INSTITUTE

LINCOLN COLLEGE

CANTERBURY

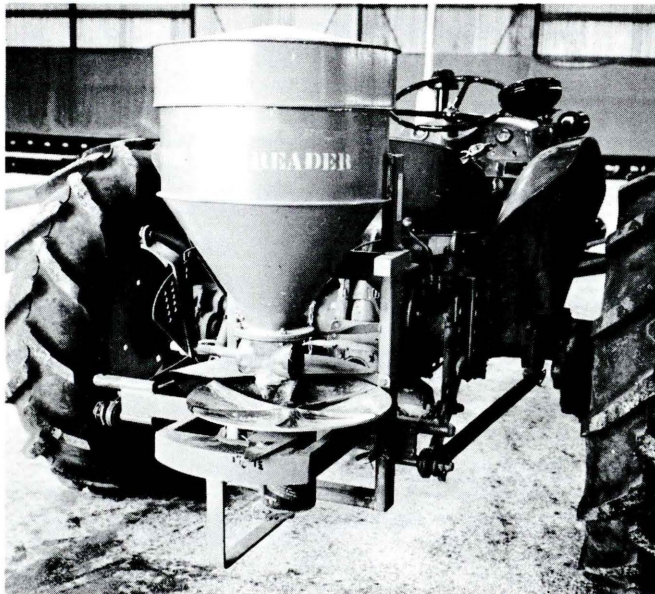
PUBLIC TEST REPORT NO. T/16



STILL AIR LABORATORY TEST ON THE NEW MODEL TARTAN SPEED  
SPREADER SPREADING 20% w/w p.p.i. D.D.T. PILLS

MANUFACTURER OF MACHINE: Farm Chemicals Co., Mapua, NELSON.

MANUFACTURER OF INSECTICIDE: Farm Chemicals Co., Mapua, NELSON.



## TEST PROCEDURE:

A full description of the test procedure and equipment is contained in Project Report P/5 of the New Zealand Agricultural Engineering Institute issued in July 1969.

BRIEF DESCRIPTION OF THE MACHINE AND MANUFACTURERS  
RECOMMENDATIONS:

The new model Tartan Speed Spreader is a three point linkage mounted spinning disc distributor, powered by a 12 volt motor.

Mounting:

The spinner should be level and approximately 2 ft above the ground when mounted.

Dimensions:

Overall dimensions.. 34" x 17" x 17"  
Weight complete with sieve, lid and 3 point linkage.. 105 lbs  
Volume of Hopper.. 1.6 cubic feet

SPECIFICATIONS OF THE MATERIAL:

Name: D.D.T. Prills 20%  
Active Content: 20% w/w p.p.i. D.D.T.  
Inert Material: Calcite Chip  
Bulk Density: 73 lbs 8 oz Per Cubic Foot.  
Sieve Analysis:

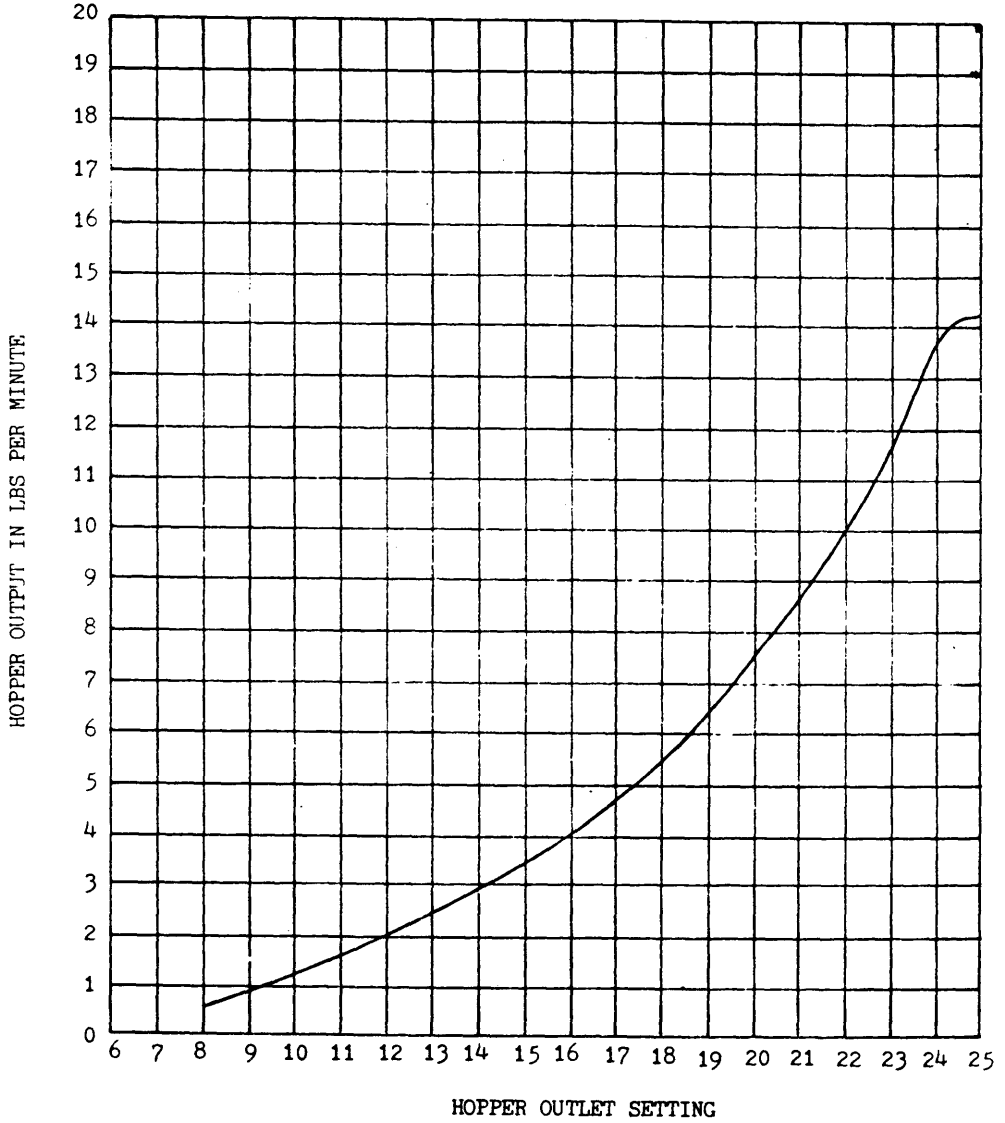
B.S. Sieve No.	% by weight
12	3.6
16	30.2
22	56.6
30	9.25
44	0.35
Pan	0.0

EFFECT OF DEPTH OF MATERIAL IN HOPPER ON OUTPUT:

There was no significant alteration in hopper output due to the depth of the material in the hopper.

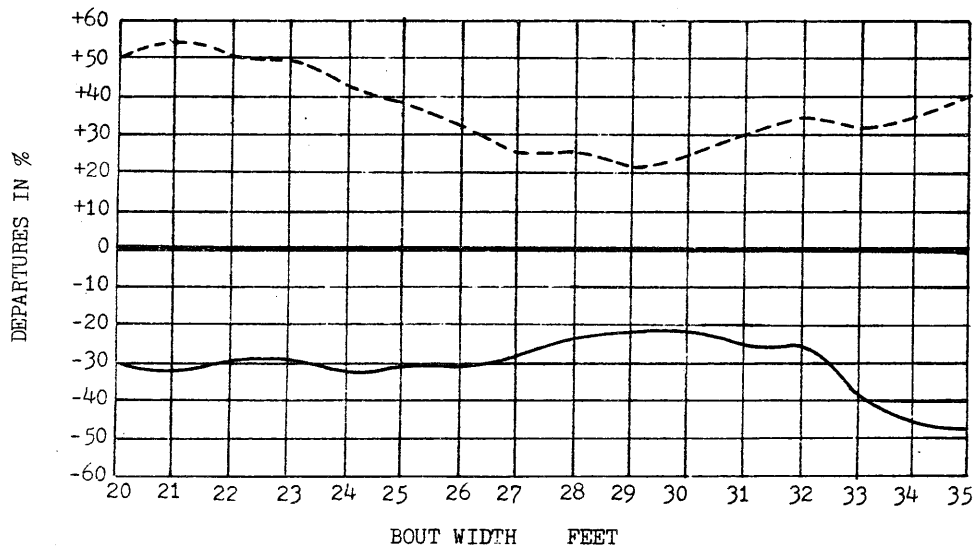
# HOPPER OUTPUT

(Flow Rates)

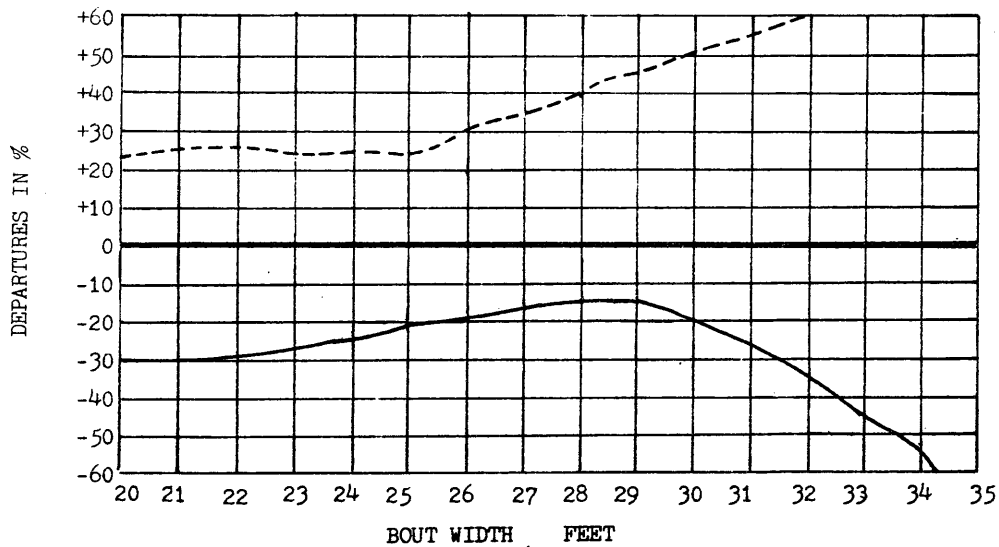


MAXIMUM DEPARTURES FROM MEAN APPLICATION  
RATE AT VARIOUS BOUT WIDTHS

Mode of Travel: To & Fro  
Above Mean Rate: - - - - -  
Below Mean Rate: \_\_\_\_\_



Mode of Travel: Round & Round  
Above Mean Rate: - - - - -  
Below Mean Rate: \_\_\_\_\_

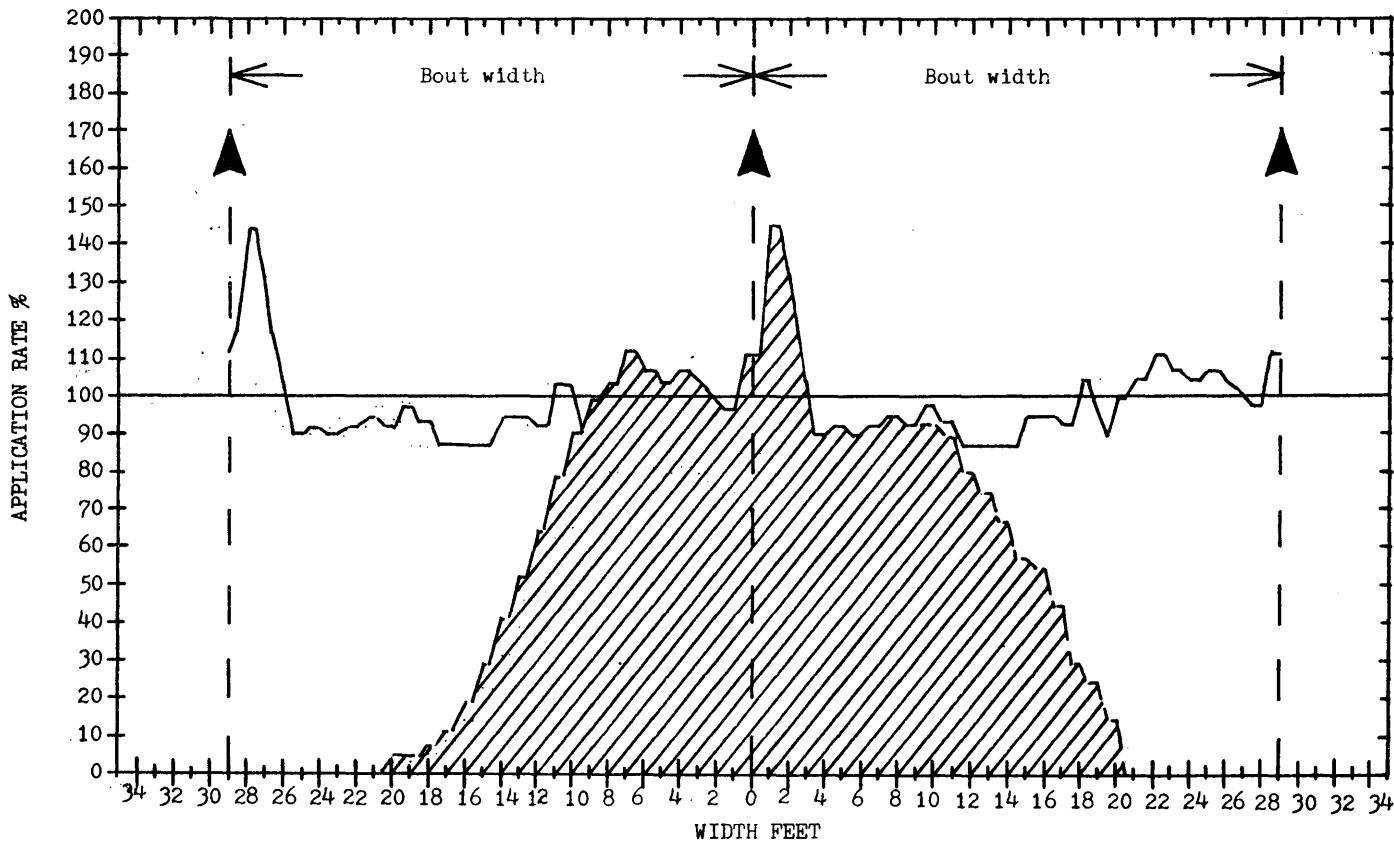


TRANSVERSE DISTRIBUTION PATTERN

Disc Setting: Disc Centre  $1\frac{11}{16}$ " from Outlet Centre

Bout Width: 29 Feet  
Hopper Outlet Setting: 15

Mode of Travel: Round & Round  
Speed of Travel: 6 m.p.h.  
Application rate: 10 lbs per acre



TRANSVERSE DISTRIBUTION PATTERN

Disc Setting: Disc Centre  $1\frac{5}{8}$ " from Outlet Centre

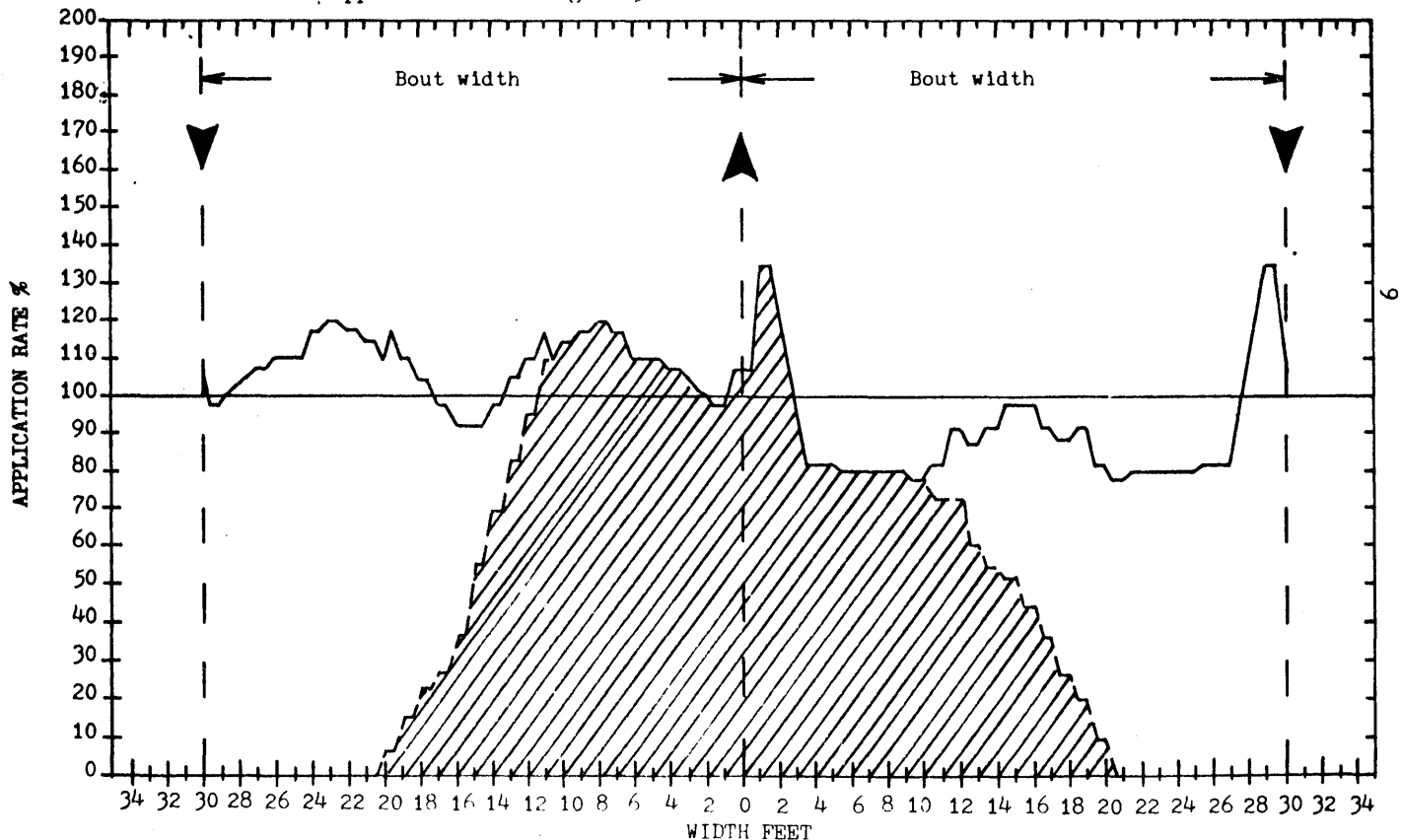
Mode of Travel: To & Fro

Speed of Travel: 5.75 m.p.h.

Bout Width: 30 Feet

Application rate: 10 lbs per acre

Hopper Outlet Setting: 15

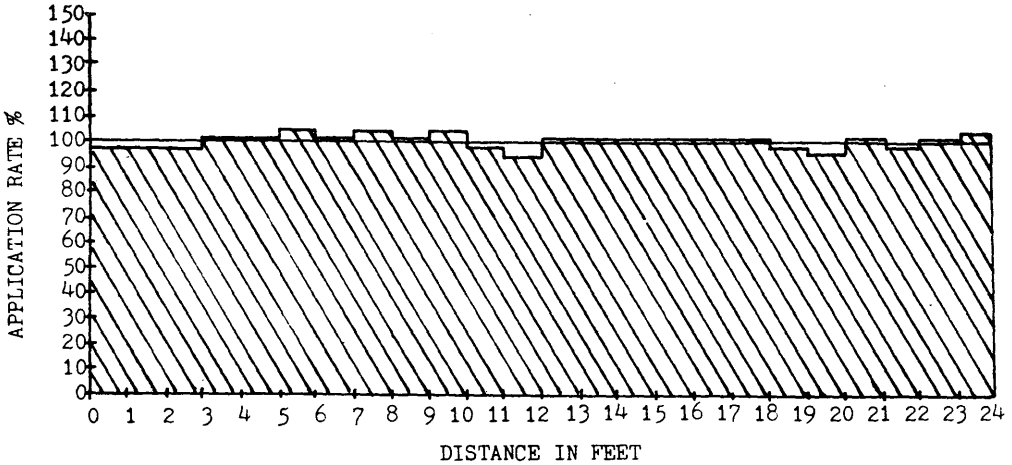


LONGITUDINAL DISTRIBUTION

Hopper Outlet Setting: 15

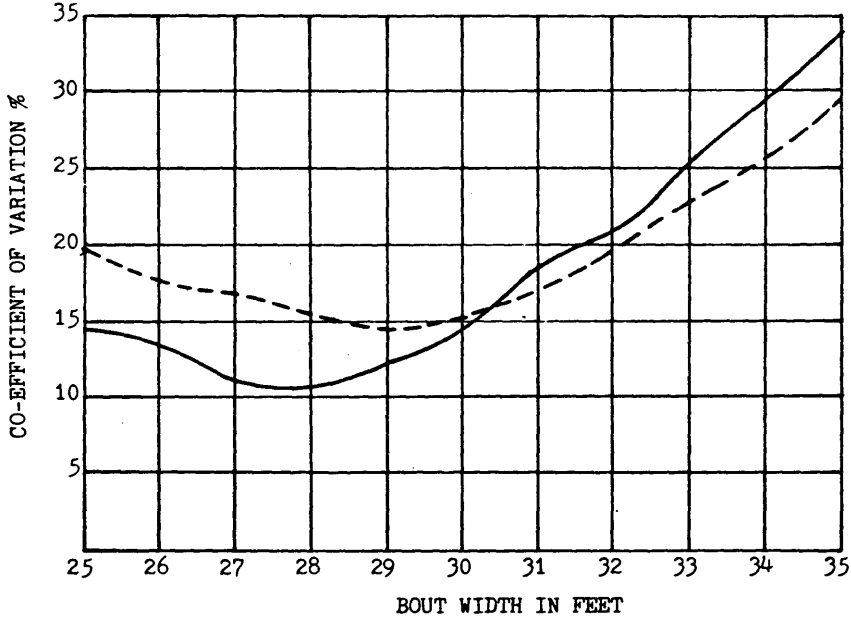
Disc Setting: As for Transverse Distribution "To and Fro" Travel

Speed of Travel: 1.64 m.p.h. .



SENSITIVITY TO FLUCTUATIONS IN BOUT WIDTH

Mode of Travel "To & Fro" -----  
 "Round & Round" —————




SIGNIFICANT PERFORMANCE CHARACTERISTICS:

The position and shape of the swath is significantly altered by small changes in the relative positions of the hopper outlet and disc.

MANUFACTURERS COMMENTS:

"In the New Model Tartan Speed Spreader the Outlet Nozzle is positioned close to the Spinner to give more accurate placement of the material.

It is intended to provide markings on the machine to indicate the position of the Spinner relative to the Nozzle Outlet."

Testing Officer 

Date .11-9-69..

DIRECTOR   
