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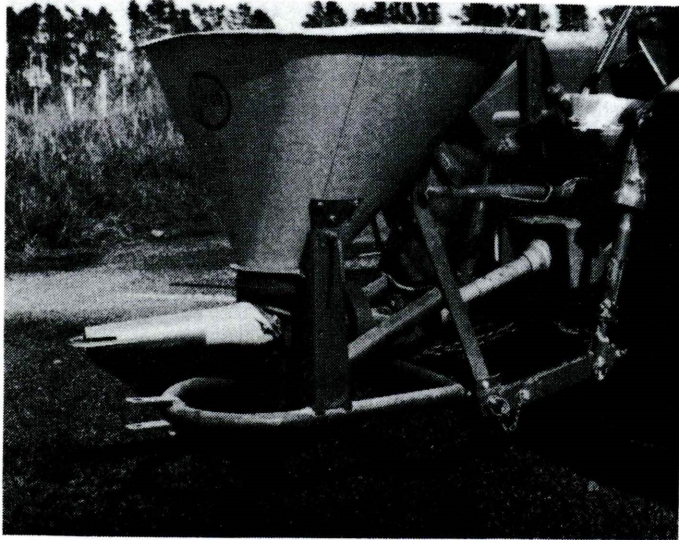
TEST REPORT NO. T/48



THE VICON VARI SPREADER WITH STANDARD SPOUT SPREADING
DI-AMMONIUM PHOSPHATE (18N-20P-OK)

MANUFACTURER OF MACHINE: Vicon N.V. Nieuw Vennepe, HOLLAND, and
Dalhoff & King N.Z. Ltd, WELLINGTON, N.Z.
for the New Zealand content.

SOURCE OF THE FERTILISER: Kempthorne Prosser & Co., CHRISTCHURCH.



TEST PROCEDURE:

A full description of the test procedure and equipment is contained in Project Report P/6 to be issued by the New Zealand Agricultural Engineering Institute. In the interim see NZAEI Project Report P/5.

BRIEF DESCRIPTION OF THE MACHINE:

The Vicon Vari Spreader is a tractor three point linkage mounted, P.T.O. driven, oscillating nozzle fertiliser distributor. The volume of the hopper of the machine tested was approximately 6.9 cubic feet.

For a full description of the machine together with operating instructions and settings, see Vicon Operating Instructions Handbook B75.

SIEVE ANALYSIS OF THE MATERIAL (DI-AMMONIUM PHOSPHATE):

B.S. Sieve No.	% by weight
4	3.4
8	50.5
12	40.0
16	5.1
22	0.8
30	0.1
Pan	0.1

BULK DENSITY OF THE MATERIAL (DI-AMMONIUM PHOSPHATE):

The bulk density was 60 lbs 0 oz per cubic foot.

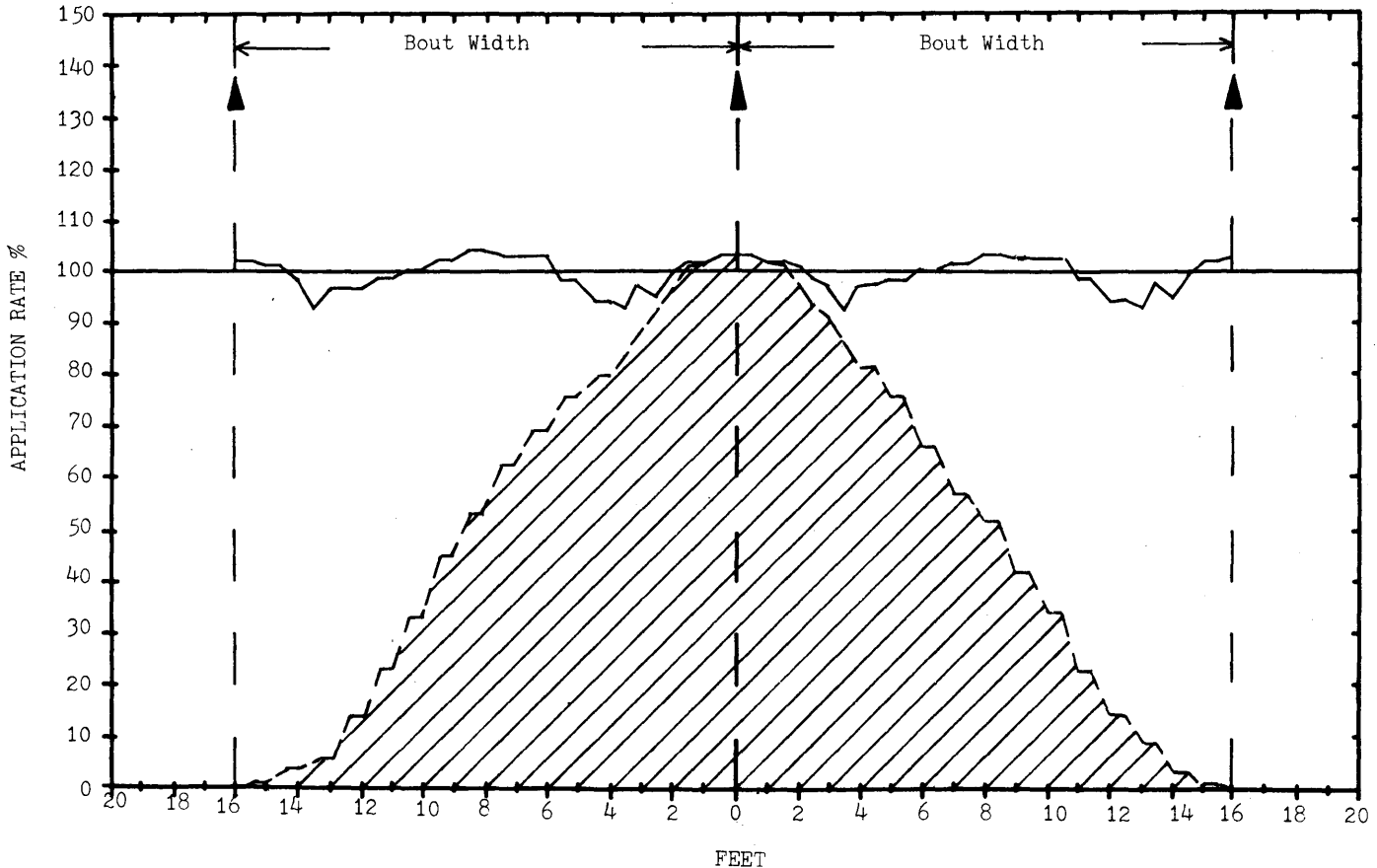
HOPPER OUTPUT OF MACHINE TESTED:

Hopper Outlet Setting	Bout Width in Feet	Application Rate in lbs per Acre				
		179	134	107	90	77
8	16	179	134	107	90	77
9	16	236	178	142	119	102
10	16	292	219	175	146	125
11	16	392	294	235	196	168
12	16	474	356	285	237	204
Ground Speed in M.P.H.		3	4	5	6	7

TRANSVERSE DISTRIBUTION PATTERN

Name of Machine: Vicon Vari Spreader
P.T.O. Speed: 540 R.P.M.
Hopper Outlet Setting: 12
Bout Width: 16 feet

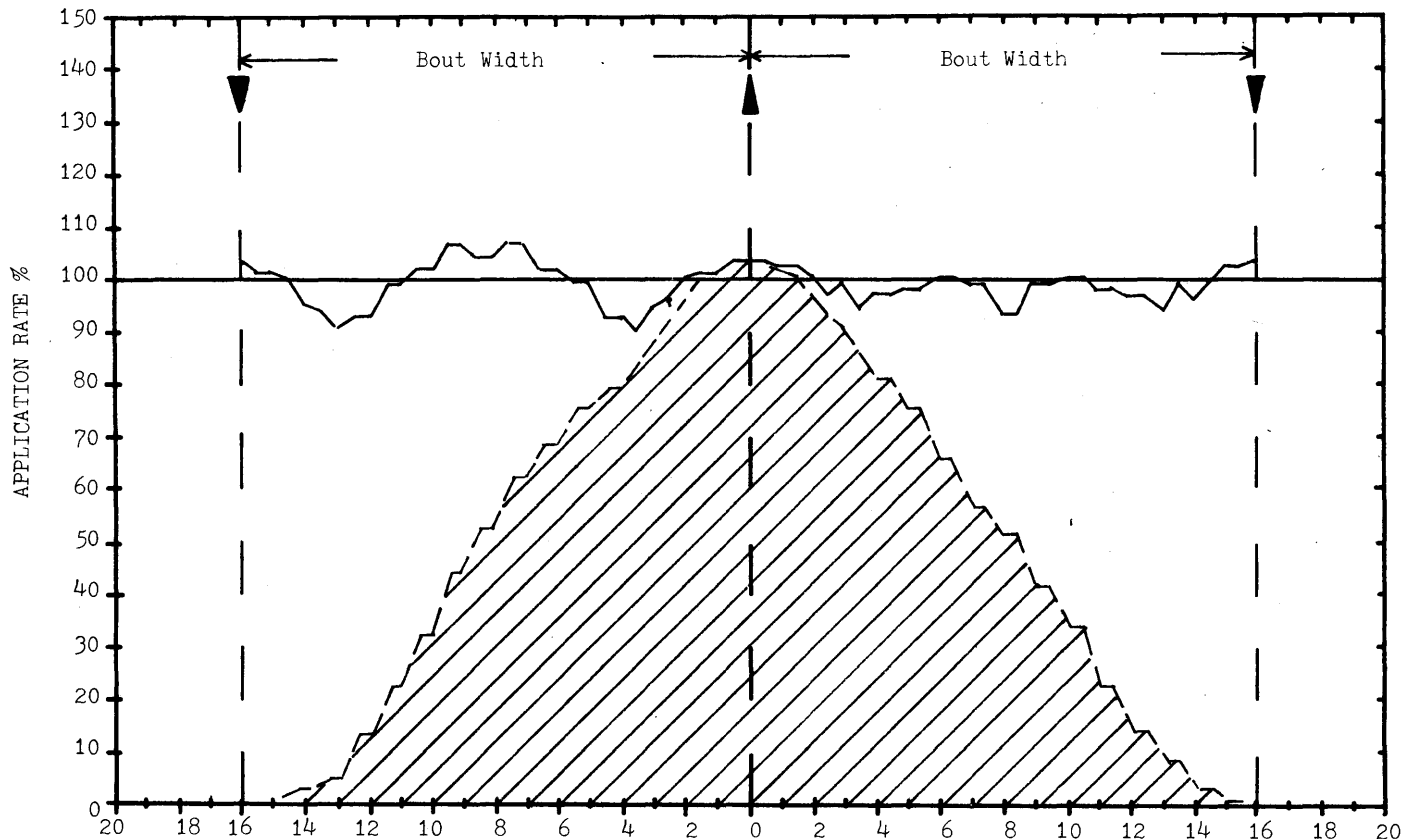
Material: Di-Ammonium Phosphate
Spout Height: 22"
Mode of Travel: Round & Round



TRANSVERSE DISTRIBUTION PATTERN

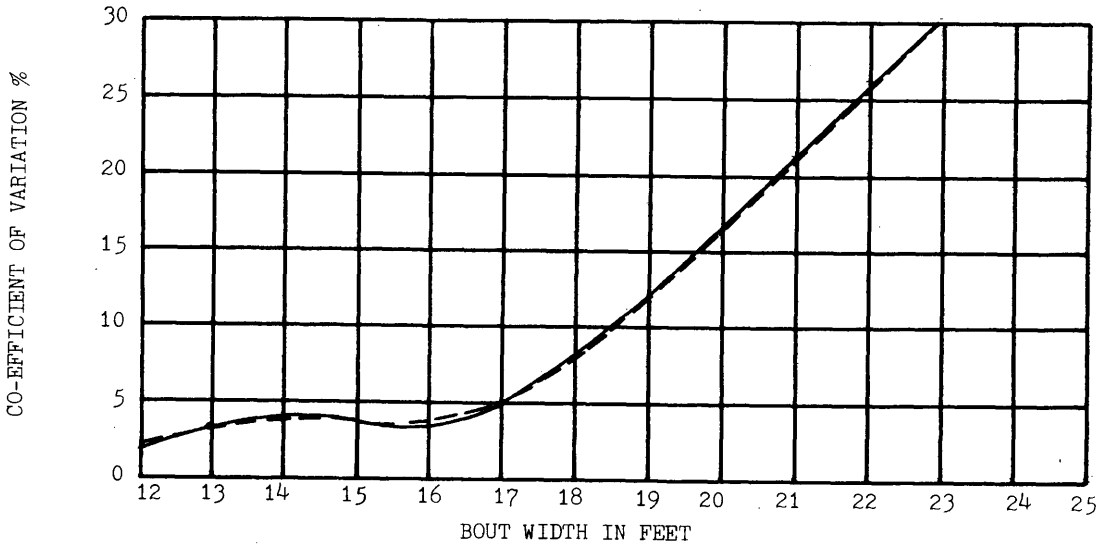
Name of Machine: Vicon Vari Spreader
P.T.O. Speed: 540 R.P.M.
Hopper Outlet Setting: 12
Bout Width: 16 feet

Material: Di-Ammonium Phosphate
Spout Height: 22"
Mode of Travel: To & Fro



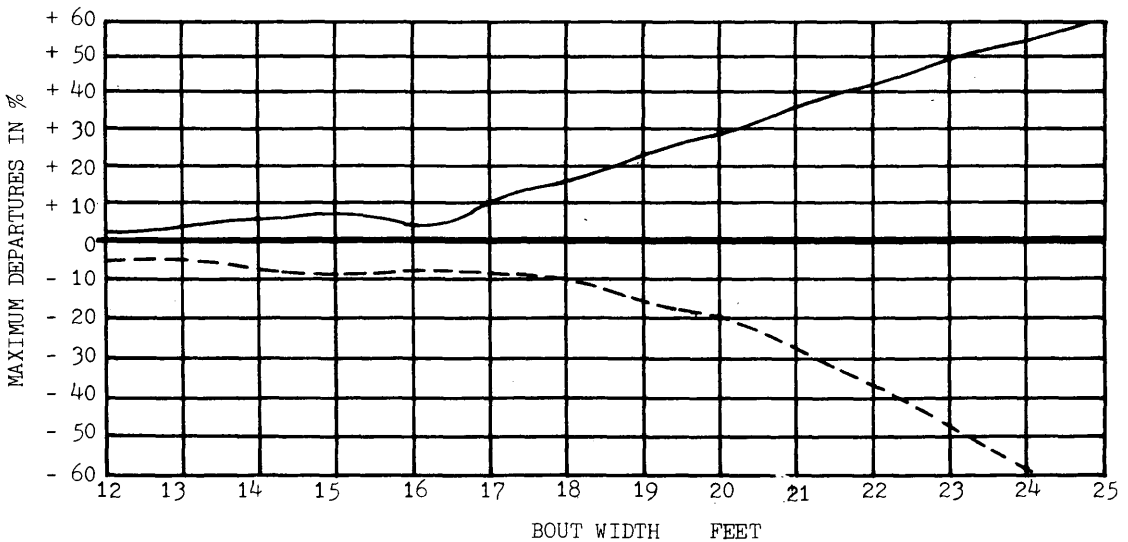
SENSITIVITY TO FLUCTUATIONS IN BOUT WIDTH:

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



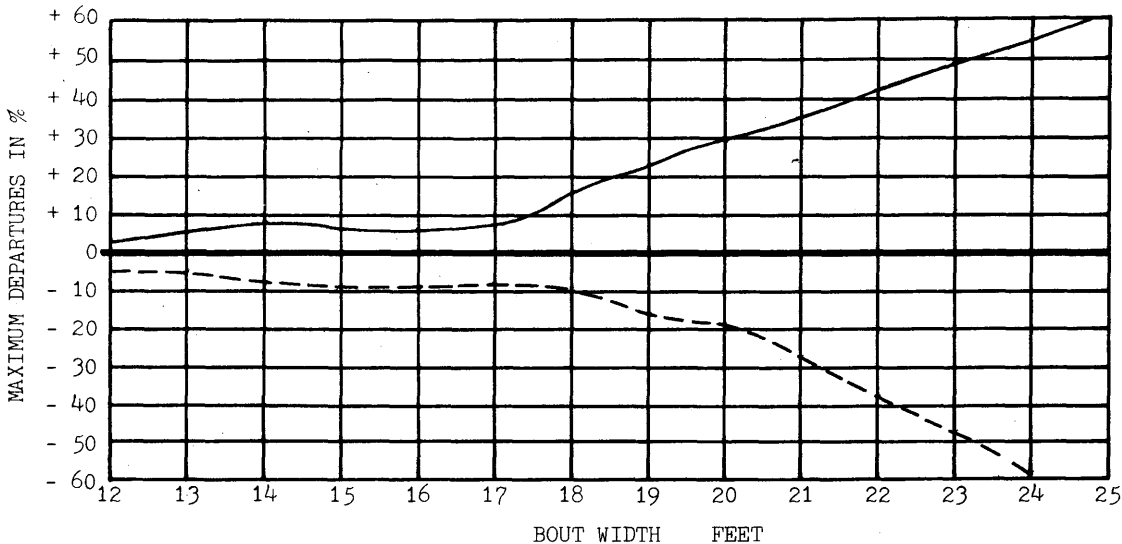
MAXIMUM DEPARTURES FROM THE MEAN APPLICATION RATE
 OVER A SELECTED RANGE OF BOUT WIDTHS:

Mode of Travel: Round & Round
 Above the Mean Rate —————
 Below the Mean Rate - - - - -



MAXIMUM DEPARTURES FROM THE MEAN APPLICATION RATE
OVER A SELECTED RANGE OF BOUT WIDTHS:

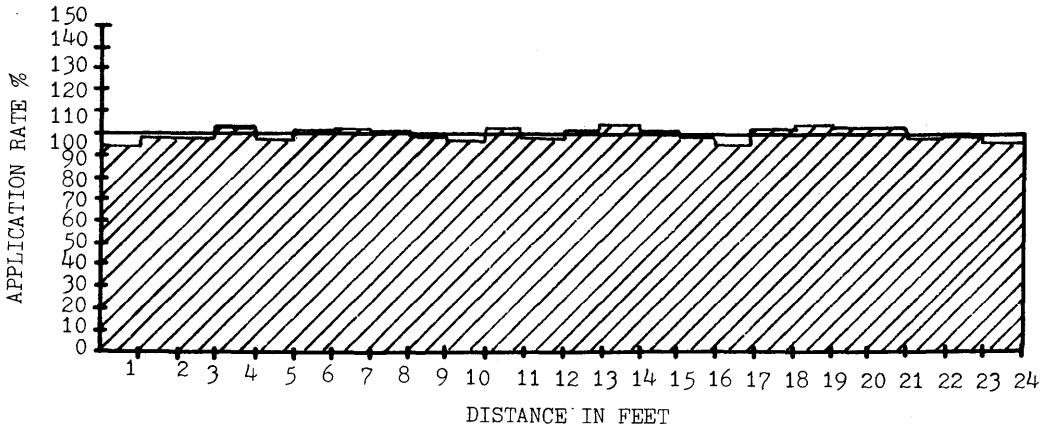
Mode of Travel: To & Fro
Above the Mean Rate _____
Below the Mean Rate - - - - -



LONGITUDINAL DISTRIBUTION:

Name of Machine: Vicon Vari Spreader
P.T.O. Speed: 540 R.P.M.
Hopper Outlet Setting: 12

Material: Di-Ammonium Phosphate
Spout Height: 22"
Actual Test Speed: 4 m.p.h.




COMMENTS ON PERFORMANCE:

The Co-efficients of Variation at the illustrated bout widths of 16 feet for the Modes of Travel "Round & Round" and "To & Fro" were 3.4% and 3.7% respectively. (N.B. The lower the Co-efficient of Variation is the more even will be the distribution, perfect spreading being 0.0%. See N.Z.A.E.I. Project Report P/6).

The shape of the curves on the Sensitivity to Fluctuations in bout width graph for both Modes of Travel indicate a machine/material combination sensitive to driving errors. To maintain the spreading pattern displayed on the Transverse Distribution pattern graph maintenance of the correct bout width involving accurate driving will be required.

MANUFACTURERS COMMENTS:

The manufacturers of the machine considered that no comment was required on the machine/material combination.

Testing Officer 

Date 24.11.70

DIRECTOR 