Nebraska On-Farm Research Network

INDETERMINATE VERSUS DETERMINATE VARIETIES UNDER TWO IRRIGATION STRATEGIES

Study ID: 097155199101
Saunders County
1991

Objective: To determine and document the effect on profitability of the use of an indeterminate variety (Hoegemeyer 368) versus the use of a determinate variety (Hobbit87) under a growth stage irrigation strategy versus a no irrigation strategy.

Non-Irrigated Treatments

INDETERMINATE VARIETY		DETERMINATE VARIETY	
Treatment:		Treatment:	
Early preplant application of 1 pint 2,4-D ester		Early preplant application of 1 pint 2,4-D ester	
Preplant application of 1 pint Roundup		Preplant application of 1 pint Roundup	
Planting: Hoegemeyer 368, planting rate of 60 pounds per acre; banded application of 6 pints Freedom and 1.125 pints Command		Planting: Hobbit87, planting rate of 75 pounds per acre; banded application of 6 pints Freedom and 1.125 pints Command	
Cultivation		Cultivation	
No irrigation		No irrigation	
Costs:		Costs:	
Seed	$ 14.40	Seed	$ 13.50
Comparative cost	$ 14.40	Comparative cost	$ 13.50

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Irrigated Treatments

INDETERMINATE VARIETY
UNDER IRRIGATION

Treatment:

Early preplant application of 1 pint 2,4-D ester

Preplant application of 1 pint Roundup

Planting: Hoegemeyer 368, planting rate of 60 pounds per acre; banded application of 6 pints Freedom and 1.125 pints Command

Cultivation

Irrigation at mid-pod elongation and seed fill

Costs:

Seed	$ 14.40
Irrigation	24.30
Comparative cost	$ 38.70

DETERMINATE VARIETY
UNDER IRRIGATION

Treatment:

Early preplant application of 1 pint 2,4-D ester

Preplant application of 1 pint Roundup

Planting: Hobbit87, planting rate of 75 pounds per acre; banded application of 6 pints Freedom and 1.125 pints Command

Cultivation

Irrigation at mid-pod elongation and seed fill

Costs:

Seed	$ 13.50
Irrigation	24.30
Comparative cost	$ 37.80

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RESULTS:

Early population		
Indeterminate	99000	**
Determinate	129000	
Dryland	113000	
Irrigated	115000	
Final population		
Indeterminate	84000	**
Determinate	106000	
Dryland	93000	
Irrigated	97000	
Population loss		
Indeterminate	13.0%	
Determinate	16.5%	
Dryland	17.4%	
Irrigated	12.1%	
Plant height		
Indeterminate	38.4"	**
Determinate	21.5"	
Dryland	30.1"	
Irrigated	29.8"	

Pod height		
Indeterminate	7.2"	**
Determinate	5.4"	
.Dryland	6.4"	
Irrigated	6.2"	
Moisture		
Indeterminate	8.3%	**
Determinate	8.2%	
Dryland	8.2%	**
Irrigated	8.3%	
Sample weight		
Indeterminate	57.0	
Determinate	56.8	
Dryland	56.9	
Irrigated	56.9	
Yield		
Indeterminate	61.4	
Determinate	60.9	
Dryland	60.4	
Irrigated	61.9	

* – significantly different at 95% confidence level
** – significantly different at 99% confidence level

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