

## DELAYED RELEASE NITROGEN EFFECT ON POTATO YIELD AND VINE KILL, 2010

Trial ID: P0110 Protocol ID: P0110  
 Location: Montcalm Rsch. Study Director: Andy Chomas  
 Project ID: Investigator: Wesley Everman

## General Trial Information

**Study Director:** Andy Chomas  
**Investigator:** Wesley Everman

## Personnel

**Study Director:** Andy Chomas  
**Investigator:** Wesley Everman

## Crop Description

**Crop 1:** SOLTU Solanum tuberosum Potato  
**Variety:** SNOWDEN  
**BBCH Scale:** BPOT **Planting Date:** May-17-10  
**Rate, Unit:** 1 S/FT

**Row Spacing, Unit:** 34 IN

## Pest Description

**Pest 1 Type:** W **Code:** ANGR  
**Common Name:** annual grass

**Pest 2 Type:** W **Code:** CHEAL Chenopodium album L.  
**Common Name:** Lambsquarters, common

## Site and Design

**Plot Width, Unit:** 10 FT **Site Type:** FIELD field  
**Plot Length, Unit:** 25 FT  
**Plot Area, Unit:** 250 FT<sup>2</sup> **Tillage Type:** CONTIL conventional-till  
**Replications:** 4 **Study Design:** FACTOR Factorial

## Trial Initiation Comments:

Spring Disk X3, Chisel, Field Cultivated. Cultivated on , Hilled on .

## Field Prep./Maintenance:

Broadcast 200 lbs/A K-mag, 10 lbs/A Boron, 2 ton/A Chicken Manure. 5 gal/A 10-34-0, 23 gal/A 28%N at Plant, 100 lbs/A 46-0-0 Broadcast.

## Soil Description

**% OM:** 2.2 **Texture:** LS loamy sand  
**pH:** 5.1

## Application Description

	A	B	C
<b>Application Date:</b>	Jun-1-10	Sep-2-10	Sep-9-10
<b>Time of Day:</b>	4:30 pm	10:15 AM	9:50 AM
<b>Application Method:</b>	SPRAY	SPRAY	SPRAY
<b>Application Timing:</b>	OVERLAY	SEN	YELL
<b>Application Placement:</b>	BROADC	BROADC	BROADC
<b>Air Temperature, Unit:</b>	80 F	73 F	60 F
<b>% Relative Humidity:</b>	35	87	64
<b>Wind Velocity, Unit:</b>	5 MPH	2 MPH	3 MPH
<b>Wind Direction:</b>	W	SW	NW
<b>Soil Temperature, Unit:</b>	75 F	64 F	52 F
<b>Soil Moisture:</b>	2	5	5
<b>% Cloud Cover:</b>	5	3	4

## Crop Stage At Each Application

	A	B	C
<b>Crop 1 Code, BBCH Scale:</b>	SOLTU BPOT	SOLTU BPOT	SOLTU BPOT
<b>Stage Scale Used:</b>	BBCH		
<b>Stage Majority, Percent:</b>	CRACK		

## Pest Stage At Each Application

	A	B	C
<b>Pest 1 Code, Type, Scale:</b>	ANGR W	ANGR W	ANGR W
<b>Stage Majority, Percent:</b>	COT		
<b>Height, Unit:</b>	0.25 IN		
<b>Pest 2 Code, Type, Scale:</b>	CHEAL W	CHEAL W	CHEAL W
<b>Stage Majority, Percent:</b>	COT		
<b>Height, Unit:</b>	0.25 IN		

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**Application Equipment**

	<b>B</b>		<b>C</b>	
<b>Equipment Type:</b>	BKPK	BKPK	BKPK	BKPK
<b>Operating Pressure, Unit:</b>	30 PSI	30 PSI	30 PSI	30 PSI
<b>Nozzle Type:</b>	FF	FF	FF	FF
<b>Nozzle Size:</b>	8003	8003	8003	8003
<b>Nozzle Spacing, Unit:</b>	20 IN	20 IN	20 IN	20 IN
<b>Boom Length, Unit:</b>	100 IN	100 IN	100 IN	100 IN
<b>Boom Height, Unit:</b>	18 IN	23 IN	34 IN	34 IN
<b>Ground Speed, Unit:</b>	3.5 MPH	3.5 MPH	3.5 MPH	3.5 MPH
<b>Carrier:</b>	WATER	WATER	WATER	WATER
<b>Spray Volume, Unit:</b>	20 gal/ac	20 gal/ac	20 gal/ac	20 gal/ac
<b>Mix Size, Unit:</b>	3 liters	3	3	3



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Pest Code														
Crop Code														
Rating Date		SOLTU	SOLTU	SOLTU	SOLTU	SOLTU	SOLTU	SOLTU	SOLTU	SOLTU	SOLTU	SOLTU	SOLTU	SOLTU
Rating Type		Sep-2-10	Sep-16-10	Sep-16-10	Sep-23-10	Sep-23-10	Sep-30-10	Sep-30-10	Sep-30-10	Sep-30-10	Sep-30-10	Sep-30-10	Sep-30-10	Sep-30-10
Rating Unit		NDVI	NDVI	control	NDVI	control	NDVI	control	< 1 7/8"	< 1 7/8"				
Trt-Eval Interval		0-1	0-1	percent	0-1	percent	0-1	percent	0-1	percent	kilogram	count		
			14 DAT	14 DAT	21 DAT	21 DAT	28 DAT	28 DAT	HARVEST	HARVEST				

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	1	2	3	4	5	6	7	8	9
9	60 lbs CRN														
9	100 lbs urea														
9	No Vine Kill					SEN									
10	60 lbs 28% combo						0.569	0.312	96	0.249	99	0.205	100	1.854	57
10	60 lbs 28% combo														
10	60 lbs 28% combo														
10	100 lbs urea														
10	Reglone	2 L		1 pt/a		SEN									
10	Activator 90	L		0.25 % v/v		SEN									
10	Reglone	2 L		1 pt/a		YELL									
10	Activator 90	L		0.25 % v/v		YELL									
11	60 lbs 28% combo						0.552	0.311	95	0.254	98	0.208	100	2.050	46
11	60 lbs 28% combo														
11	60 lbs 28% combo														
11	100 lbs urea														
11	Rely 280	2.34 L		21 fl oz/a		SEN									
12	60 lbs 28% combo						0.525	0.393	68	0.290	92	0.233	99	1.649	36
12	60 lbs 28% combo														
12	60 lbs 28% combo														
12	100 lbs urea														
12	No Vine Kill					SEN									
LSD (P=.05)							0.1958	0.0900	18.3	0.0372	5.6	0.0253	1.1	0.7017	20.7
Standard Deviation							0.1356	0.0623	12.6	0.0258	3.9	0.0175	0.8	0.4859	14.3
CV							23.12	18.02	14.79	9.8	4.06	8.28	0.79	23.95	30.29



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Pest Code	SOLTU	SOLTU	SOLTU	SOLTU	SOLTU	SOLTU	SOLTU	SOLTU
Crop Code	Sep-30-10	Sep-30-10	Sep-30-10	Sep-30-10	Sep-30-10	Sep-30-10	Sep-30-10	Sep-30-10
Rating Date	Oversize	Oversize	PickOut	PickOut	Grade A	Grade A	SPEC. GRAV.	HH
Rating Type	kilogram	count	kilogram	count	kilogram	count		0-10
Rating Unit								
Trt-Eval Interval	HARVEST	HARVEST	HARVEST	HARVEST	HARVEST	HARVEST	HARVEST	HARVEST

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	10	11	12	13	14	15	18	19
9	60 lbs CRN													
9	100 lbs urea													
9	No Vine Kill					SEN								
10	60 lbs 28% combo						3	8	0.840	4	27.324	194	1.076	3
10	60 lbs 28% combo													
10	60 lbs 28% combo													
10	100 lbs urea													
10	Reglone	2 L		1 pt/a		SEN								
10	Activator 90	L		0.25 % v/v		SEN								
10	Reglone	2 L		1 pt/a		YELL								
10	Activator 90	L		0.25 % v/v		YELL								
11	60 lbs 28% combo						1	3	0.110	1	24.735	190	1.076	2
11	60 lbs 28% combo													
11	60 lbs 28% combo													
11	100 lbs urea													
11	Rely 280	2.34 L		21 fl oz/a		SEN								
12	60 lbs 28% combo								0.165	2	25.531	182	1.077	2
12	60 lbs 28% combo													
12	60 lbs 28% combo													
12	100 lbs urea													
12	No Vine Kill					SEN								
LSD (P=.05)							1.6	3.8	0.4438	3.9	4.7939	33.7	0.0049	2.6
Standard Deviation							1.0	2.5	0.2261	2.0	3.3200	23.3	0.0034	1.7
CV							65.41	65.94	77.23	97.11	13.21	12.58	0.31	74.92



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Pest Code  
 Crop Code                                      SOLTU    SOLTU    SOLTU  
 Rating Date                                  Sep-30-10 Sep-30-10 Sep-30-10  
 Rating Type                                      VD            IBS            BC  
 Rating Unit                                      0-10        0-10        0-10  
 Trt-Eval Interval                                HARVEST HARVEST HARVEST

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	20	21	22
9	60 lbs CRN								
9	100 lbs urea								
9	No Vine Kill					SEN			
10	60 lbs 28% combo						1		
10	60 lbs 28% combo								
10	60 lbs 28% combo								
10	100 lbs urea								
10	Reglone	2 L		1 pt/a		SEN			
10	Activator 90	L		0.25 % v/v		SEN			
10	Reglone	2 L		1 pt/a		YELL			
10	Activator 90	L		0.25 % v/v		YELL			
11	60 lbs 28% combo						2		1
11	60 lbs 28% combo								
11	60 lbs 28% combo								
11	100 lbs urea								
11	Rely 280	2.34 L		21 fl oz/a		SEN			
12	60 lbs 28% combo								
12	60 lbs 28% combo								
12	60 lbs 28% combo								
12	100 lbs urea								
12	No Vine Kill					SEN			
LSD (P=.05)							3.0	.	.
Standard Deviation							1.6	.	.
CV							92.49	.	.