Insect Pest Outlook & Control Tips

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Chlorpyrifos Update*

Proposed EPA ruling: revoke all but 11 ag. crop uses

Current approved ND/MN field crops:

Alfalfa, soybean, sugarbeet, wheat (spring & winter)

Registered for sugarbeet use in 2025:

Chlorpyrifos 4E-Ag (Adama, Drexel)
Govern, Pilot 4E, Warhawk

Chlorpyrifos 15G and Pilot 15G

*Questions: NDSU Extension, coop. agriculturists,
state ag. depts. (kellysolutions.com/ND or /MN)

Midac Update: active ingredient = imidacloprid (a neonicotinoid)

- All neonics: ongoing EPA review
- 2024: no production or sale of new Midac to retailers
  - Midac in supply chain could be sold & applied to sugarbeet
  - Vive pursued SLNs for Midac in ND & MN sugarbeet for ‘25 (not expected to be granted)
- 2025: no production of new Midac
  - Limited supply, can still be sold & applied to sugarbeet in 2025

Insect Pest Outlook

- Grasshoppers: low activity last year ==> low risk for 2025

- Lygus bugs: rest of winter will affect risk
  - cold weather & little snow cover reduces survival
  - early springs allow buildups

- Cutworms: it's complicated
  - CWs that overwinter here: this winter may reduce survival (last year's problem areas most at-risk)
  - Those blown in as moths: harder to predict

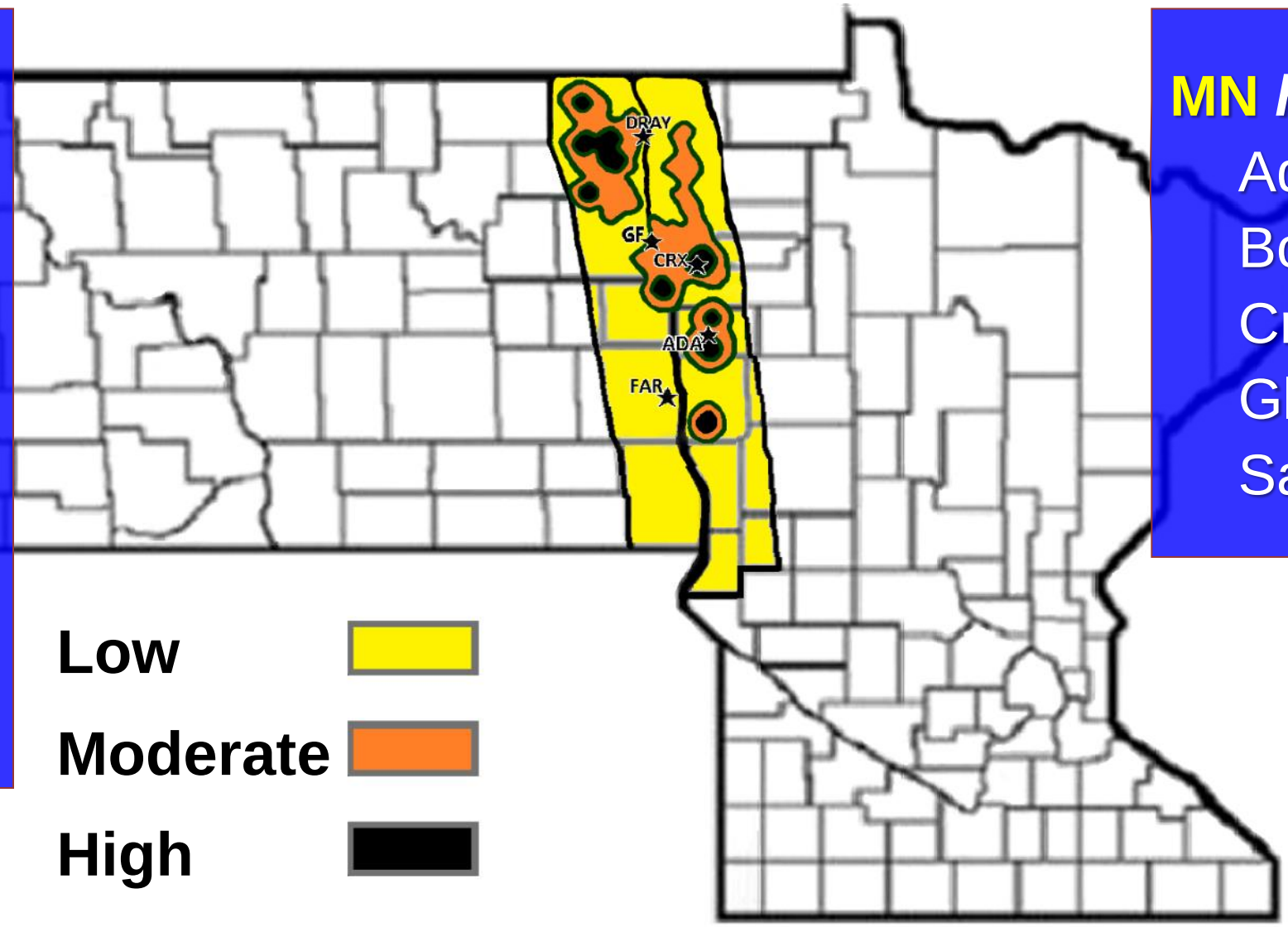
RRV Sugarbeet Root Maggot Populations

Boetel et al. 2025, NDSU

2025 Root Maggot Forecast*

ND *high* risk:

- Auburn
- Buxton
- Cavalier
- Cashel
- Crystal
- Reynolds
- St. Thomas
- Vesleyville



MN *high* risk:

- Ada
- Borup
- Crookston
- Glyndon
- Sabin

*Based on fly counts & *root maggot feeding injury* ratings

Root Maggot Control

Single, Dual & Triple Applications for SBRM Control: St. Thomas 2024

At-plant		Post	RSA	Tons/ ac	Gain over check
	Counter 8.9#	Thimet 7 lb, Pilot 4E 2 pts	10,749 a	35.4 a	$2,280
	Counter 7.5#	Thimet 7 lb, Pilot 4E 2 pts	10,629 ab	34.9 a	$2,263
	Counter 7.5#	Thimet 7 lb	10,299 ab	34.6 a	$2,136
Poncho Beta	Counter 8.9#		10,199 abc	34.6 a	$2,089
Poncho Beta	Counter 7.5#	Thimet 7 lb	9,833 abc	33.7 a	$2,012
Poncho Beta	Counter 8.9#	Thimet 7 lb	9,828 abc	32.5 a	$2,079
	Counter 8.9#	Thimet 7 lb	9,807 abc	32.4 a	$2,077
	Counter 8.9#		9,705 bc	32.1 a	$2,051
Poncho Beta			9,256 c	32.3 a	$1,827
Check			8,024 d	28.5 b	$1,543
		LSD (0.05)	**1,014.2**	**3.56**	

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Post Insecticides & Exponent Synergist for SBRM Control

St. Thomas, ND – 2024

At-Plant	Post (4d Pre-Peak Fly)	RSA (lb/ac)	Tons/ ac	Gross Rev/ac	Gain over Check
Counter 20G 8.9 lb	Pilot 4E 2 pts	10,611 a	34.4 a	$2,297	$808
Counter 20G 8.9 lb		10,400 a	34.0 a	$2,229	$740
Counter 20G 7.5 lb	Pilot 4E 2 pts	10,389 a	34.0 a	$2,226	$737
Counter 20G 7.5 lb	Mustang Maxx + Exponent	10,188 a	33.8 ab	$2,146	$657
Counter 20G 8.9 lb	Pilot 4E 1 pt	10,025 a	32.9 ab	$2,143	$654
Counter 20G 7.5 lb	Mustang Maxx	9,991 a	32.8 ab	$2,131	$642
Counter 20G 7.5 lb	Pilot 4E 1 pt	9,895 a	32.7 ab	$2,091	$602
Counter 20G 7.5 lb	Asana 9.6 oz	9,708 a	33.3 ab	$1,961	$472
Counter 20G 7.5 lb	Asana + Exponent	9,341 ab	32.9 ab	$1,821	$332
Poncho Beta	Pilot 4E 2 pts	8,397 bc	30.2 bc	$1,587	$98
Poncho Beta		7,703 c	27.1 cd	$1,504	$15
CHECK		7,475 c	25.9 d	$1,489	---
	LSD (0.05)	1,287.0	3.59		

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Dual Insecticide Programs for SBRM Control, St. Thomas, 2024

At-Plant	**Post** (4 d pre-peak)	**RSA** (lb/ac)	**Tons/ac**	**Rev./ac**	**Gain**
Counter 20G B 7.5#	Pilot 4E 2 pts	11,544 a	36.3 a	$2,582	$544
Counter 20G B 8.9#	Pilot 4E 1 pt	11,434 a	36.4 a	$2,526	$488
Counter 20G B 8.9#	Pilot 4E 2 pts	11,412 a	36.7 a	$2,495	$457
Counter 20G B 7.5#	Pilot 4E 1 pt	11,155 ab	35.8 a	$2,444	$406
Poncho Beta + Midac		11,155 ab	35.1 a	$2,492	$454
Poncho Beta + Midac	Pilot 4E 2 pts	10,718 ab	36.1 a	$2,215	$177
Poncho Beta + Midac	Pilot 4E 1 pt	10,535 abc	35.4 ab	$2,186	$148
Counter 20G B 7.5#		10,524 abc	35.6 ab	$2,167	$129
Poncho Beta		10,317 bc	33.4 bc	$2,237	$199
Midac		10,182 bc	32.0 c	$2,277	$239
Check		9,548 c	31.3 c	$2,038	---
	LSD (0.05)	1,071.4	2.26		

Integrating Insecticide, Fungicide, and Fertilizer Applications

Elatus®

EXCALIA™
FUNGICIDE

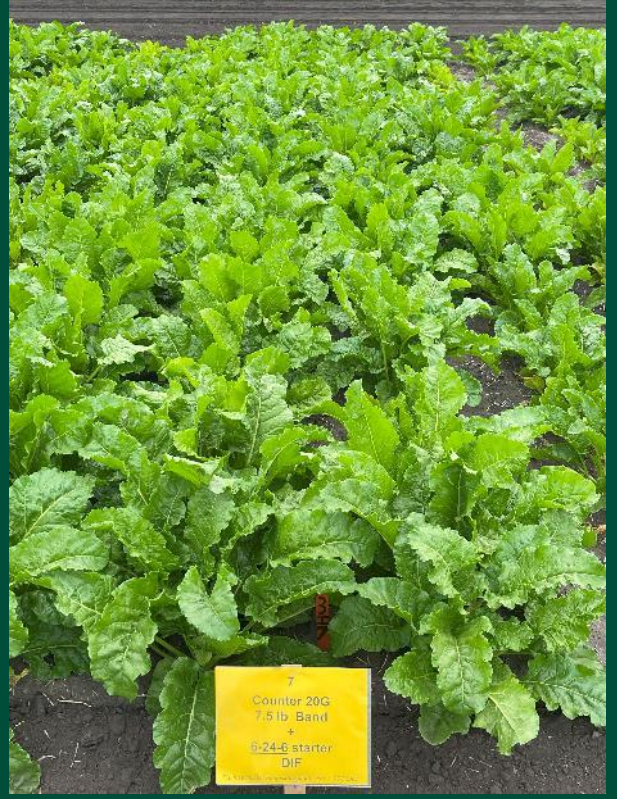
6-24-6

COUNTER® 20G

NDSU | EXTENSION

At-Plant Insecticide, Starter Fertilizer & Fungicide Applications, St. Thomas, ND, 2024

Treatment	RSA (lb/ac)	Tons/ac	Revenue
Counter 20G 8.9# + 6-24-6	12,216.6 a	38.7 a	$2,709
Counter 20G 7.5# + 6-24-6 + AZteroid	11,226.5 ab	36.9 ab	$2,388
Counter 20G 8.9# + 10-34-0	11,074.0 ab	37.1 ab	$2,304
Counter 20G 7.5# + 6-24-6	11,056.6 ab	35.9 ab	$2,385
Counter 20G 7.5# + 10-34-0 + AZteroid	10,986.4 b	36.4 ab	$2,316
Counter 20G 7.5# + 10-34-0	10,941.4 b	37.0 ab	$2,254
Counter 20G 8.9# + 10-34-0 + AZteroid	10,926.1 b	35.8 ab	$2,332
Counter 20G 8.9#	10,774.1 bc	35.1 bc	$2,317
Counter 20G 7.5#	10,724.8 bcd	34.8 bc	$2,317
Counter 20G 8.9# + 6-24-6 + AZteroid	10,695.2 bcd	35.0 bc	$2,288
6-24-6	9,614.2 cde	31.8 cd	$2,033
10-34-0	9,531.5 de	31.0 d	$2,052
Check	9,221.2 e	31.8 cd	$1,846
LSD (0.05)	1,205.3	3.4	



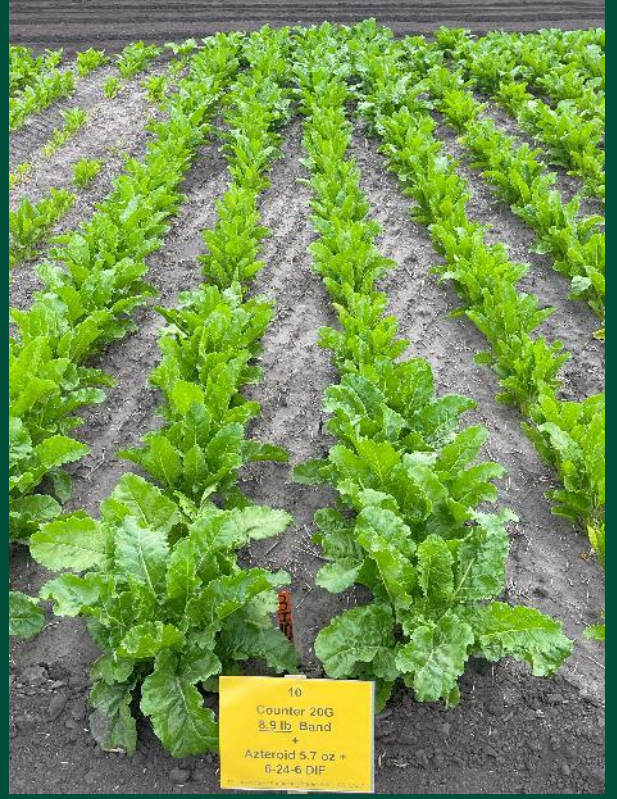
Counter B 7.5 lb

6-24-6 starter DIF

Counter B 7.5 lb
Azteroid 5.7 fl oz +
6-24-6 starter DIF

Counter B 8.9 lb

6-24-6 starter DIF



Counter B 8.9 lb
Azteroid 5.7 fl oz +
6-24-6 starter DIF

Combining POST SBRM Insecticides with Foliar Fungicides

St. Thomas, ND, 2024

POST Treatment*	SBRM Damage (0-9)	RSA (lb/ac)	Tons/ ac	Gross rev./ac
Mustang Maxx + **Elatus**	2.5 cde	11,134.7 a	35.1 a	$2,488
Mustang Maxx 4 oz	2.1 de	11,087.4 a	35.0 a	$2,473
Pilot 4E + **Elatus**	1.8 e	10,904.8 a	34.3 a	$2,442
Pilot 4E + **Excalia**	3.0 bcd	10,904.7 a	35.3 a	$2,368
Mustang Maxx + **Excalia**	3.6 b	10,875.4 a	34.7 a	$2,400
Pilot 4E 2 pts	2.9 bcd	10,732.3 a	35.1 a	$2,298
Mustang Maxx + **Quadris**	2.5 cde	10,710.6 a	34.3 a	$2,354
Pilot 4E + **Quadris**	2.2 de	10,590.4 a	34.1 a	$2,308
Counter 20G B 8.9 lb (no post insecticide)	3.3 bc	10,151.9 a	33.1 a	$2,183
Untreated	6.0 a	9,033.7 b	28.2 b	$2,039
LSD (0.05)	1.0	1,051	2.8	

* All insecticide plots received Counter 20G 8.9# at planting.

Pilot 4E 2 pts +
Elatus 7.1 fl oz
7” Band

Pilot 4E 2 pts +
Excalia 0.64 fl oz
7” Band

Pilot 4E 2 pts +
Quadris 10 fl oz
7” Band

Summary: root maggot control

- Pilot 4E, Mustang Maxx & Asana XL: similar performance at max. rates
  - Exponent synergist: no significant benefits
- Well-timed post sprays provide excellent SBRM control
- At-Plant Insecticide/Fungicide/Fertilizer Combinations:
  - Applying Counter concurrently w / starter fert. & AZteroid?
    Reduce rate of Counter (esp. with 6-24-6)
- POST Insecticide/Fungicide Combinations:
  - Trends: 1) Elatus - more safe to combine w/ insecticides
    2) Quadris - least " " " " "

Successful Root Maggot Control

- "Know thine enemy":
  - Forecast map
  - Online fly counts
  - Monitor your fields
- Root maggot model:
  - tracks progress to peak fly
  - guidelines for POST insecticide timing
- High-risk areas: 2- or 3-component insecticide combo

Springtail Control: 7 locations between 2006 & 2022

Treatment	RSA (lb/ac)	Root yield (tons/ac)	Revenue/ ac	Gain over Check
Counter 5.9# B	8,669 a	31.2 a	$1,341	$476
Counter 7.5# B	8,664 a	31.2 a	$1,336	$470
Counter 4.5# B	8,513 a	30.6 a	$1,311	$445
NipsIT Inside 60 g	8,264 a	29.7 a	$1,273	$408
Poncho Beta 68 g	8,161 a	29.3 a	$1,268	$402
Cruiser 60g	8,154 a	29.6 a	$1,255	$390
Check	5,731 b	21.4 b	$866	---
LSD (0.05)	856.2	2.12		

Insecticide Programs for Springtail Control – Prosper, ND, 2024*

Treatment	RSA (lb/ac)	Tons/ac	Rev./ac	Gain
Poncho Beta + Mustang Maxx 4 fl oz 3" T-band	9,584 a	34.3 a	$1,825	$425
Poncho Beta + Midac FC 13.6 fl oz DIF	9,411 a	33.6 ab	$1,796	$395
Poncho Beta + Mustang Maxx 4 fl oz DIF	9,318 ab	33.2 abc	$1,784	$384
Counter 20G 7.5# Band	9,315 ab	32.8 abc	$1,814	$413
Counter 20G 8.9# Band	9,308 ab	33.0 abc	$1,798	$397
Mustang Maxx 4 fl oz DIF	9,302 ab	32.9 abc	$1,804	$403
Mustang Maxx 4 fl oz 3" T-band	9,218 abc	32.6 a-d	$1,788	$387
Poncho Beta	9,179 abc	32.8 a-d	$1,757	$356
Poncho Beta + Movento HL 2.5 fl oz 10" Post Band	9,049 abc	31.9 b-e	$1,764	$364
Counter 20G 5.9# Band	8,817 bcd	31.4 cde	$1,690	$290
Midac FC 13.6 fl oz DIF	8,705 cd	31.0 de	$1,672	$272
Counter 20G 4.5# Band	8,446 d	30.6 e	$1,579	$178
Check	7,350 e	26.3 f	$1,401	---
*14 replications **LSD (0.05)**	589.3	1.74		

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Springtail Control

Prosper, ND – 2024

Check

Counter Band 7.5#

Mustang Maxx 4 oz DIF

Poncho Beta +
Mustang Maxx 4 oz DIF

Springtail Control Tips

- Consistent performance:
  - Seed treatment insecticide + an at-plant spray (Midac or Mustang Maxx)
  - Moderate to higher rate of Counter 20G (5.9 to 7.5 lb/ac)

- No benefit from Movento (10” POST Band) in 2024:
  - not recommended
- Lowest surviving plant stands & yield:
  - single trts. of Mustang Maxx, Poncho Beta, Midac, low rate of Counter
- High risk: use Counter or a combo of seed treatment + at-plant spray

Cutworm Control (no data shown)

- Don’t rely on seed treatments
- Key: catching infestations early (scouting)
- Rescue options:
  - Chlorpyrifos
  - Mustang Maxx or Asana XL
  - Coragen or Exirel?

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Thank you!

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