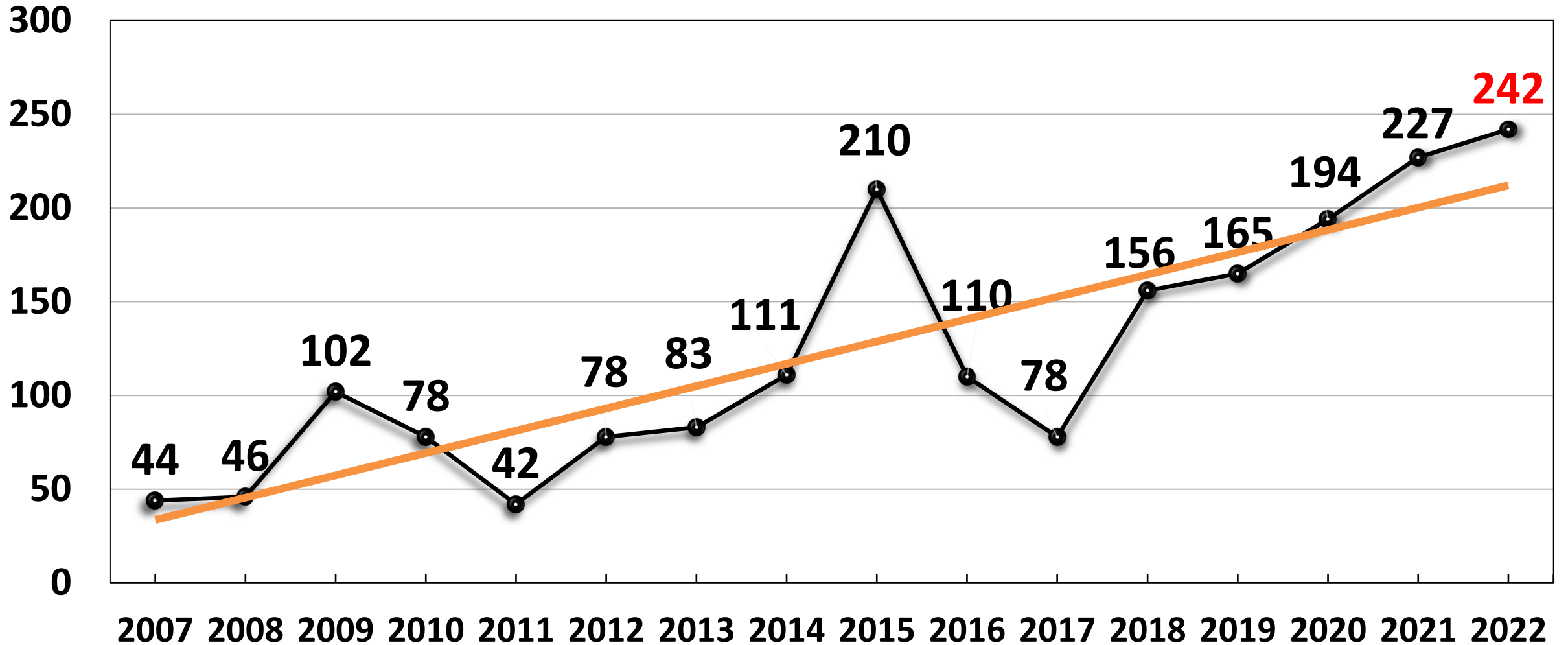


Sugarbeet Root Maggots



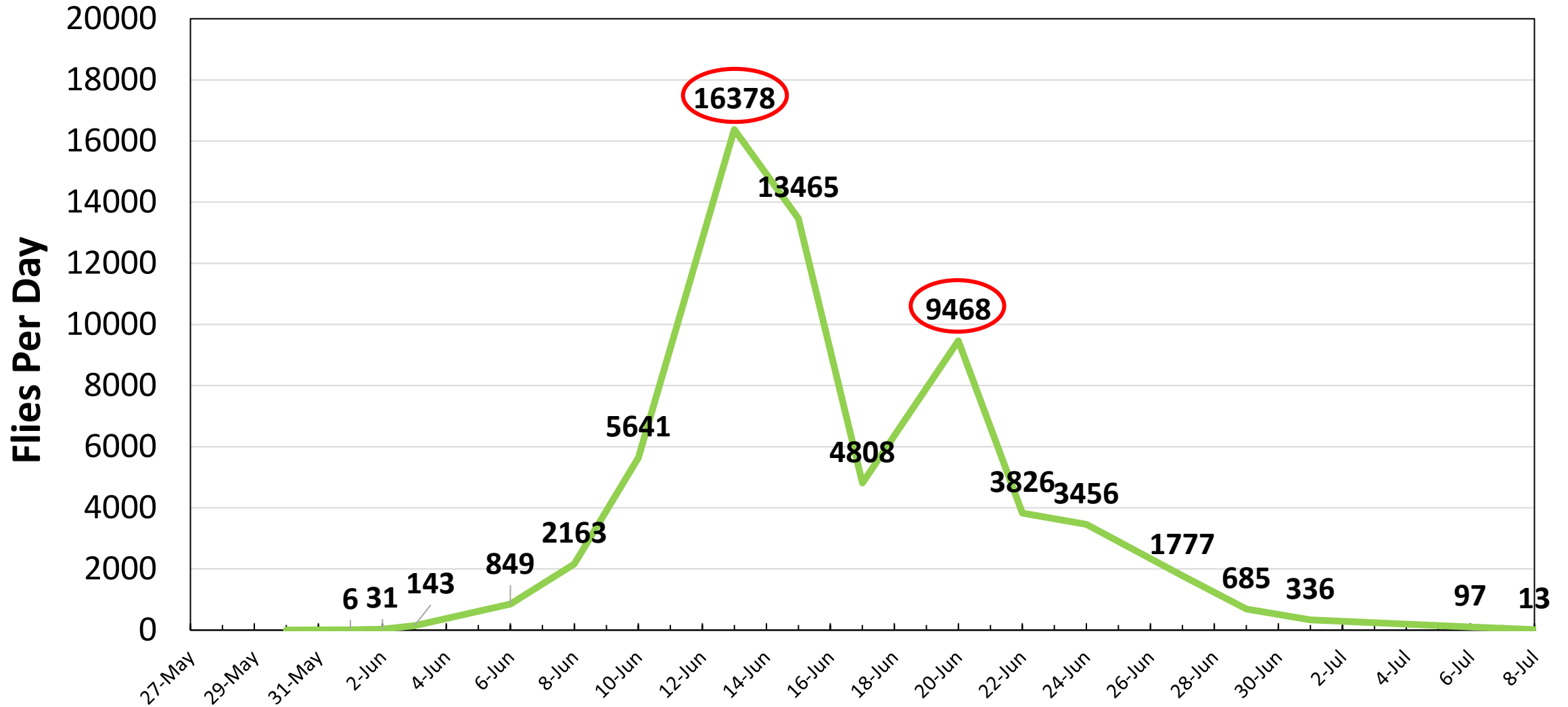
RRV Sugarbeet Root Maggot Populations

Root Maggot Flies / Trap (RRV Average)

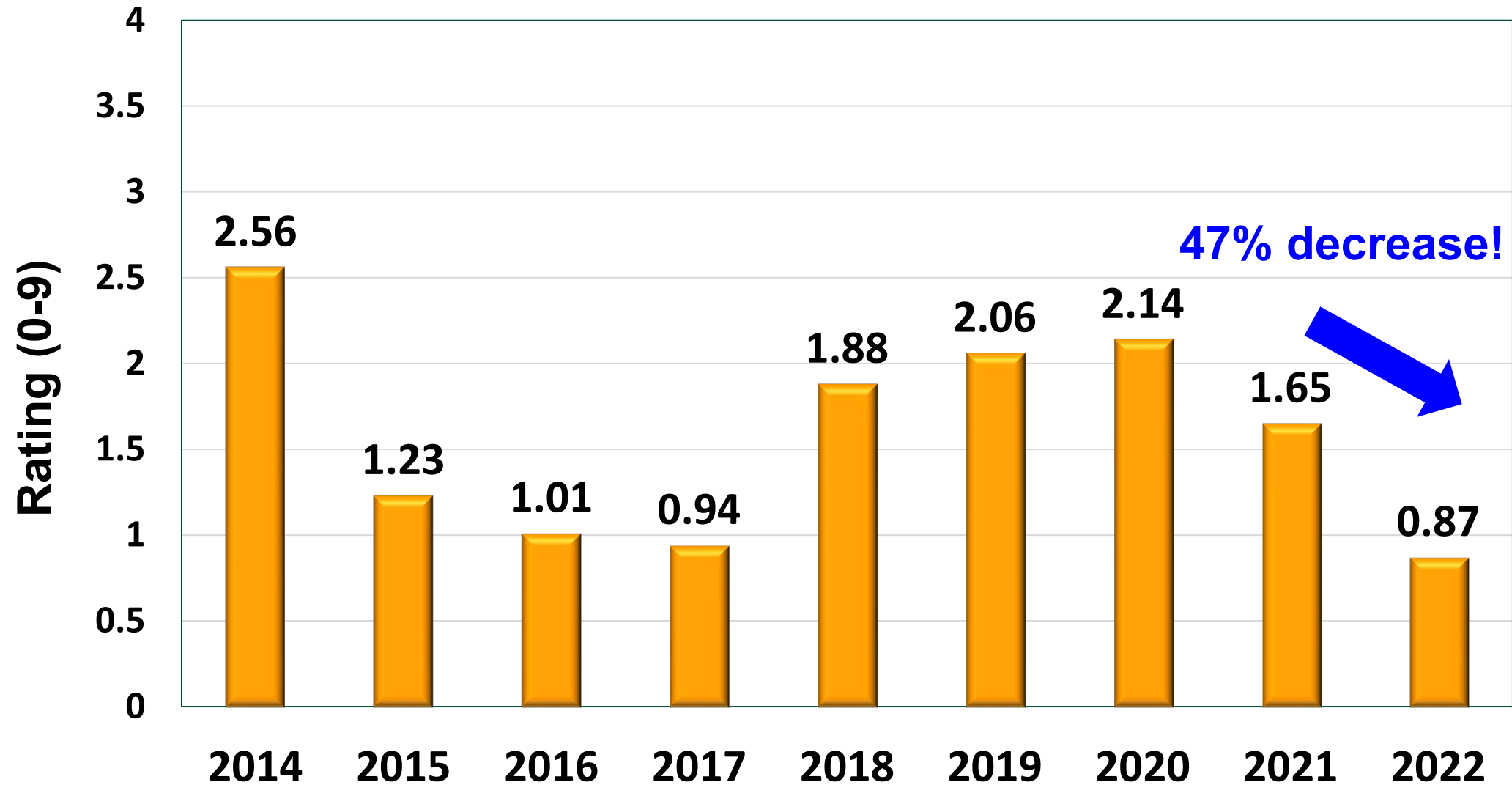


Root Maggot Flies in 2022: 2 Peaks & 3 weeks of High Activity

Cumulative Fly Captures (2-stake totals) – RRV Combined*

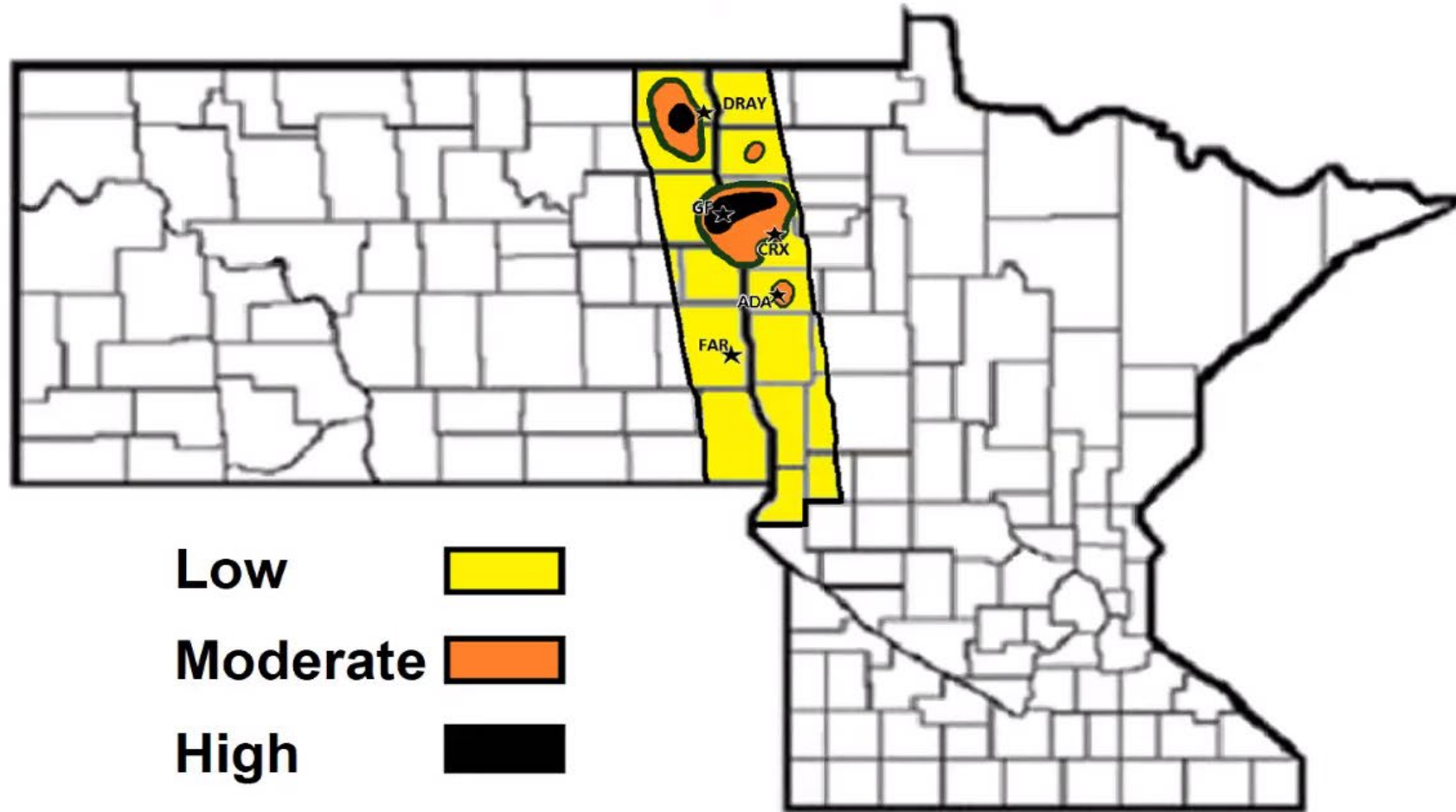


SBRM Feeding Injury in Grower Fields that Reached Fly Threshold*



*Economic Threshold: 43+ cumulative flies/trap (if no at-plant insecticide used)

2018



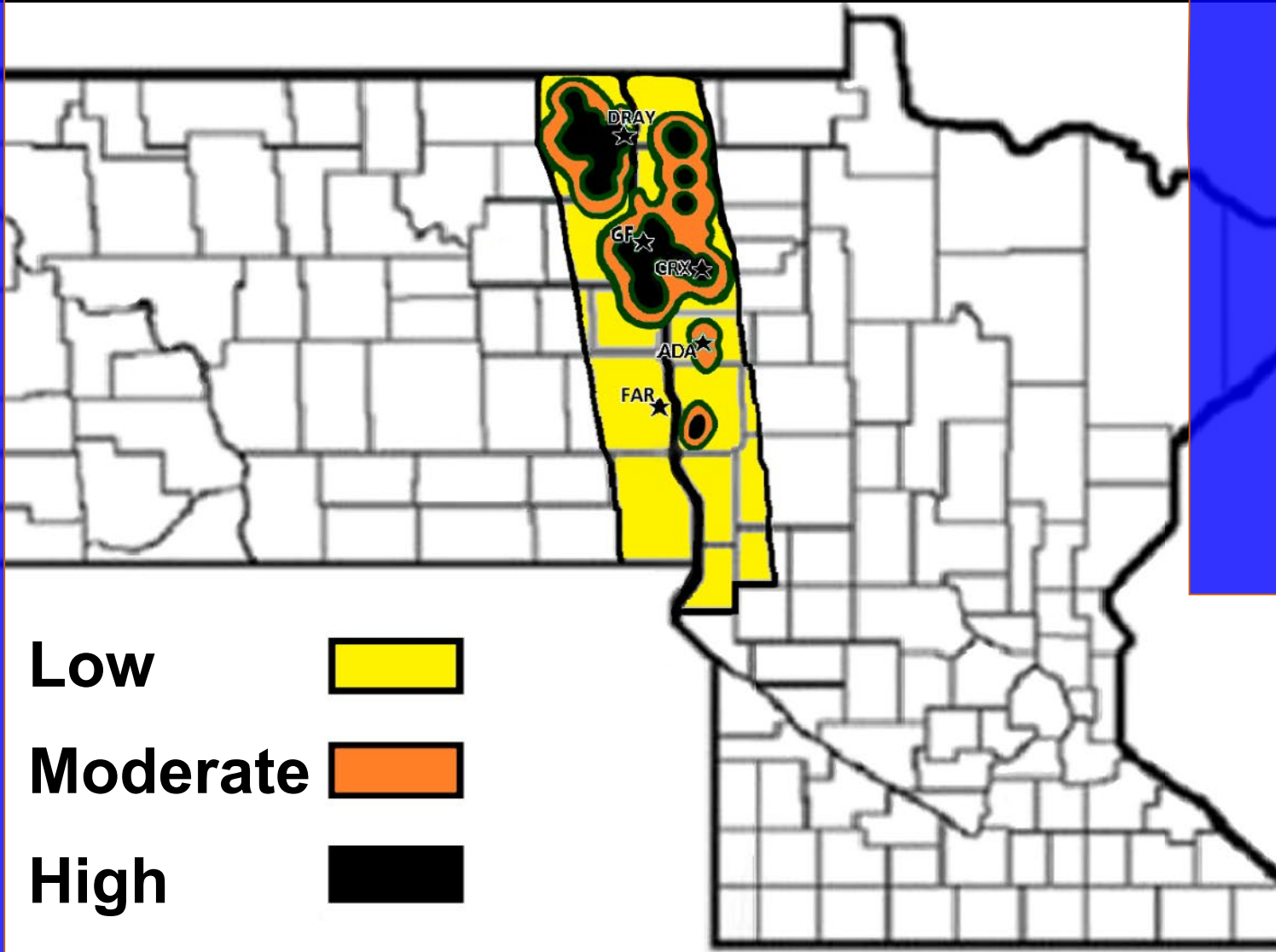
2023 Root Maggot Forecast*

ND high risk:

Auburn
Cashel
Cavalier
Crystal
Drayton
Glasston
Grand Forks
Hensel
Hoople
Oakwood
Reynolds
St. Thomas
Thompson
Voss

MN high risk:

Argyle
Climax
Crookston
Donaldson
E. Grand Forks
Sabin
Warren



*Based on fly counts & root maggot feeding injury ratings

Midac, Poncho Beta, & Counter for SBRM Control: St. Thomas, ND

3-yr Combined Analysis (2020-2022)

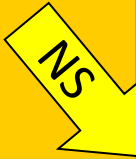
Treatment	Rec. Sucrose (lb/ac)	Tons/ac	\$/ac above Check
Counter 20G Band <u>8.9 lb</u>	8,045 a	25.2 ab	\$331
Poncho Beta & Midac + 10-34-0 fert.*	7,868 ab	25.6 a	\$248
Counter 20G Band <u>7.5 lb</u>	7,564 ab	24.0 ab	\$237
Midac + 10-34-0 *	7,416 ab	23.1 b	\$233
Counter 20G Band <u>7.5 lb</u> & 10-34-0 *	7,387 ab	23.6 ab	\$195
Poncho Beta & 10-34-0 fert. *	7,313 b	23.7 ab	\$165
Untreated check	6,038 c	18.9 c	---
10-34-0 check *	5,506 c	18.7 c	(\$164)
LSD (0.05)	666.5	2.24	



*All at-plant liquid insecticides & starter fertilizer applied dribble in-furrow (DIF)

Repeated & Alternated POST Sprays for SBRM Control St. Thomas, ND, 2022

At-Plant	Post	Rec. Sucrose (lb/ac)	Tons/ ac	\$/ac above Check
Counter 7.5 lb	Mustang Maxx (2d)/ Asana (5d)/ Mustang Maxx (8d)*	8,786 a	26.5 ab	\$869
Counter 7.5 lb	Mustang Maxx (2d) / Mustang Maxx (8d)	8,632 a	27.4 a	\$764
Counter 7.5 lb	Mustang Maxx (2d)	8,510 a	26.3 ab	\$783
Counter 7.5 lb		7,456 a	23.1 b	\$576
CHECK		4,736 b	15.7 c	---
	LSD (0.05)	1,440.6	3.5	



*Numbers in parentheses are days AFTER peak fly (not recommended).

Single, Dual, & Triple Appls. for SBRM Control

St. Thomas, ND, 2022

At-Plant	Post	RSA (lb/ac)	Tons/ Ac	\$/ac above Check
Poncho Beta + Counter 7.5 lb	Thimet 7 lb	10,031 a	31.8 a	\$1,161
Counter 8.9 lb	Thimet 7 lb & Mustang Maxx 4 oz	9,858 a	30.3 a	\$1,080
Poncho Beta + Counter 8.9 lb	Thimet 7 lb	9,459 a	30.0 a	\$951
Poncho Beta + Counter 8.9 lb		9,358 a	29.6 a	\$936
Counter 8.9 lb	Thimet 7 lb	9,083 ab	29.4 a	\$881
Counter 8.9 lb		8,898 ab	27.6 ab	\$848
Poncho Beta	Counter 8.9 lb	8,834 ab	28.2 ab	\$822
Poncho Beta		7,578 b	23.9 b	\$605
CHECK		4,594 c	15.3 c	---
LSD (0.05)		1,555.7	4.56	



DR = 1.7

#1



PBeta + Ctr B 7.5# at-plant
+ Thimet 2d Pre-pk

DR = 1.8



PBeta + Ctr B 8.9# at-plant
+ Thimet 2d Pre-pk

DR = 2.4



Counter 8.9# at-plant + Thimet
2d Prepk + Mustang 2d PostPk

DR = 3.7



Poncho Beta

DR = 6.4



Check

Additive Granular Insecticides for SBRM Control: St. Thomas, ND

7-yr Combined Analysis (2015-2021)*

Treatment	NS	Rec Sucrose (lb/ac)	Tons/ac	\$/ac above Check
Counter 8.9 lb Band + Thimet 7 lb Post Band		8,746 a	29.3 a	\$438
Poncho Beta + Counter 8.9 lb <u>At-plant Band</u>		8,735 a	29.7 a	\$414
Poncho Beta + Counter 8.9 lb <u>Post Band</u>		8,544 a	28.9 a	\$399
Poncho Beta + Thimet 7 lb Post Band		7,851 b	27.2 b	\$285
Counter 8.9 lb Band		7,771 b	27.1 b	\$269
Poncho Beta		7,533 b	26.3 b	\$237
CHECK		5,744 c	20.8 c	---
	LSD (0.05)	541.7	1.68	

*No significant Treatment x Yr Interaction ($\alpha = 0.05$)

Root Maggot Control in 2023

- SBRM populations continued at high levels in 2022; BUT, control efforts reduced root damage
- 2023 will still be a challenge
- Be aware of your risk:
 - 1) Forecast map; 2) Monitor fields; 3) Follow fly counts online
- High-pressure areas:
 - Dual or triple-tool approach essential (at-plant and/or postemerge)
 - Be aggressive with POST apps. (population mgt.)
 - Liquid insecticides 2-4 days pre-peak; granules 5-15 days pre

**There is no change in chlorpyrifos
revocation status!!!**

**Chlorpyrifos cannot be used in
2023 if is found it will considered a
miss applied chemical application.**

What will growers need to do?

Recommendations for SEVERE area

- High rate of Counter 20G 8.9# At-Plant
- Thimet (7.0#) application 6-14 days Pre-Peak

When fly counts reach threshold*

- Mustang Maxx at 4 oz./acre

-or

- Asana XL @ 9.6 oz./acre

*Sugarbeet Root Maggot Fly Thresholds

Post emergence insecticide applications should occur ahead of peak fly activity when:

- Unprotected fields have cumulative fly counts of 40-45 flies/stake
- Fields protected with an at-plant insecticide exceed cumulative fly counts of 70 flies/stake

Insecticide Application Timing:

- Post Granule Applications: 6-14 days before expected SBRM fly activity peak
- Post Liquid Applications: 2-3 days before expected SBRM fly activity peak

Recommendations for MODERATE area

- Moderate rate Counter 20G 7.5# At-Plant

When fly counts reach threshold*

- Mustang Maxx at 4 oz./acre

-or

- Asana XL at 9.6 oz./acre

Recommendations for LOW area

- Moderate rate of Counter 20G 7.5# At-Plant
- -or - a seed treatment
- -or - Midac FC In-Furrow

- Monitor SBRM fly population

- If fly counts reach threshold*
- Mustang Maxx at 4 oz./acre
- -or
- Asana XL at 9.6 oz./acre

Websites for fly counts and growing degree days

- https://www.ndsu.edu/snrs/people/faculty/mark_boetel/sugarbeet_entomology/
- <https://ndawn.ndsu.nodak.edu/help-sugarbeet-root-maggot.html>
- <https://ndawn.ndsu.nodak.edu/sugarbeet-root-maggot.html>
- <https://www.crystalsugar.com/agronomy/ag-tools/pest-alert/>

Questions??

