Why did the scarecrow become a successful farmer?

Disease Update for Soybeans and Corn

Corn and Soybean Update, 2/6/25
Chipley, FL

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Row Crops & Vegetables
Plant Pathology Department/IFAS
University of Florida

To be outstanding the three key take aways are…

Scouting, monitoring and diagnosis are critical to disease management

Do not be late when it comes to managing diseases

Consider the age of your crop in fungicide management

Soybean diseases to look out for are:

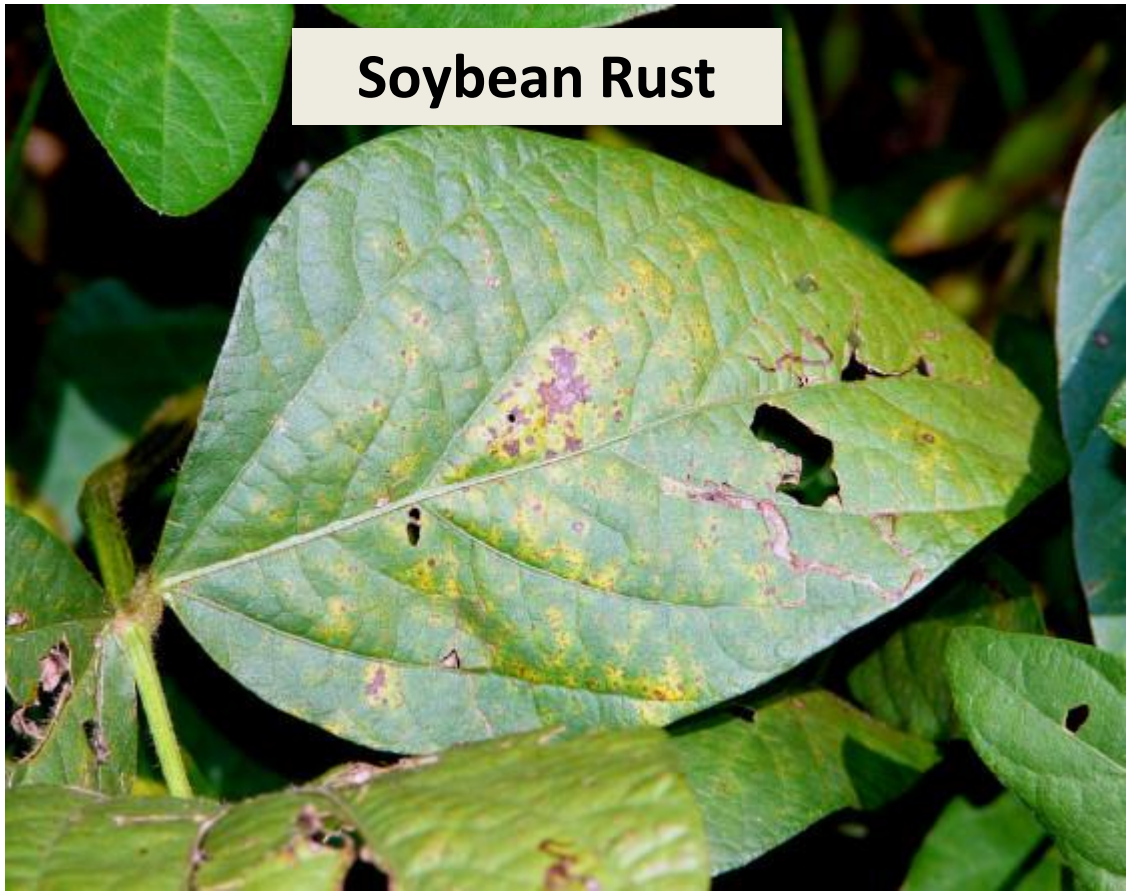
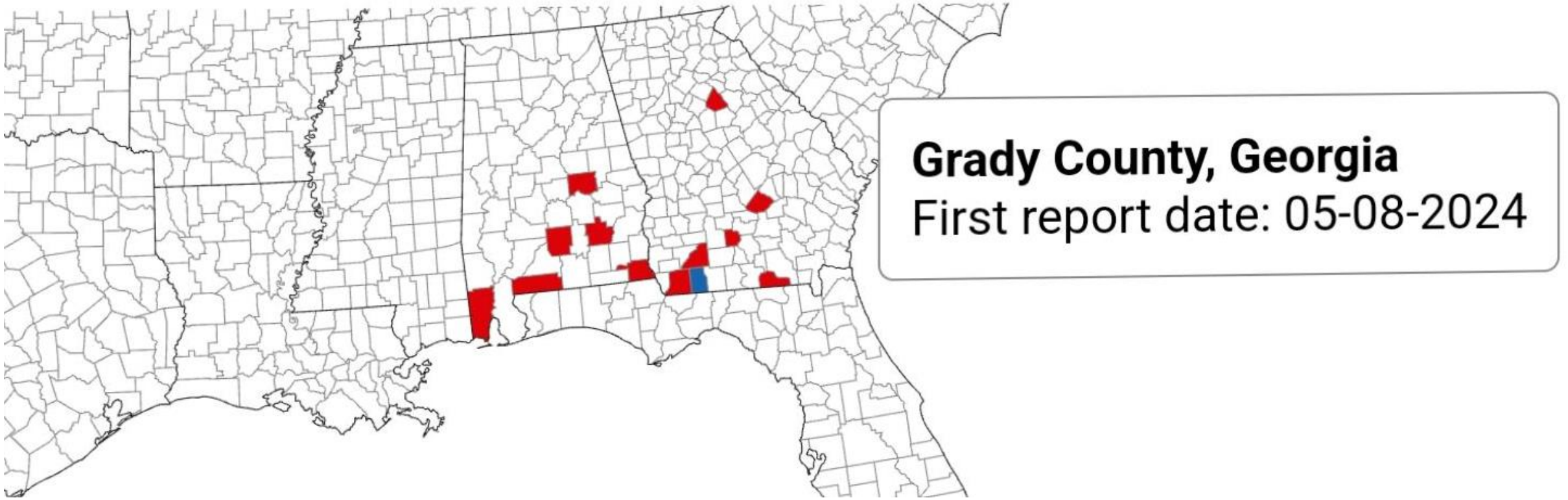


Photo: Mueller

“Cool” and wet

Photo: Sikora

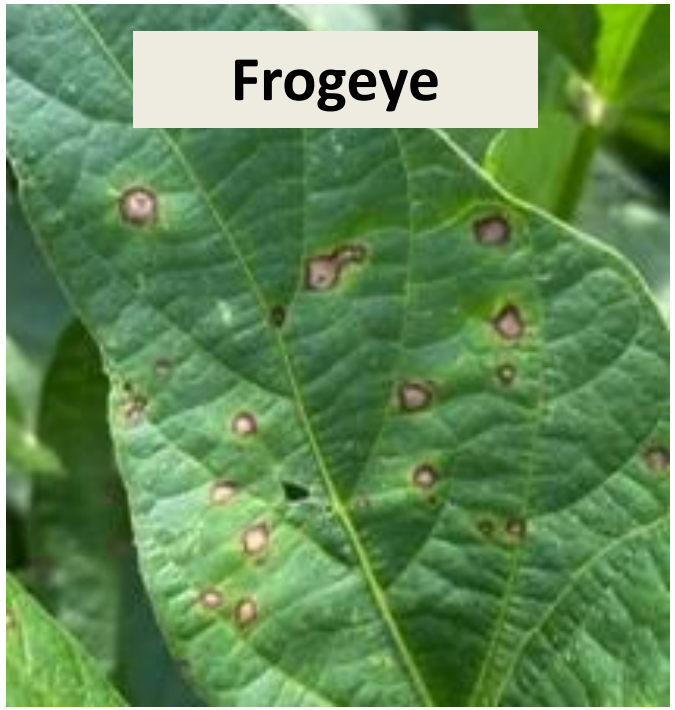
“Warm” and wet



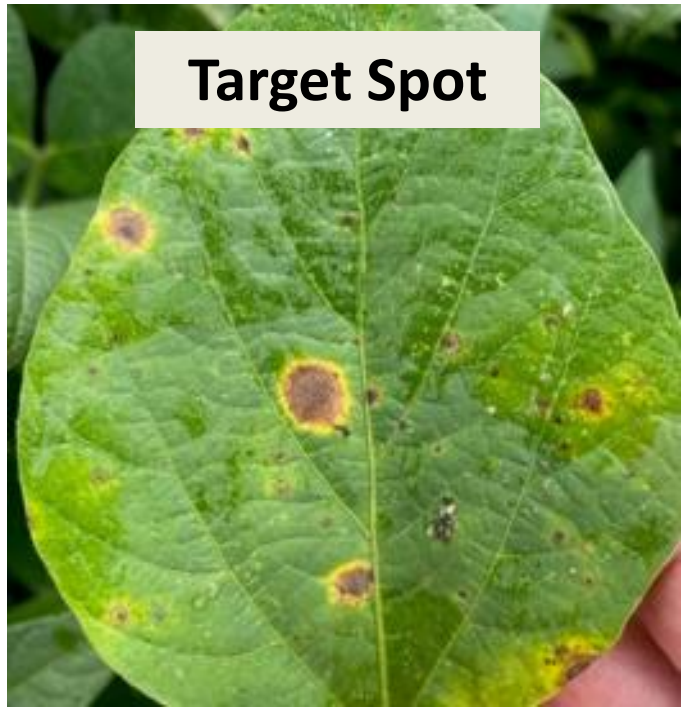
Typically, Soybean rust found in June

Summer heat (>90 F) may slow down rust, but risk is high for rust to spread late especially with tropical storms.

Other soybean diseases of interest/present



Warm, humid weather promotes development. Confused with herbicide injury.



Wet conditions favor disease. Confused with rust. Is present in SE.

Warm, humid weather promotes development. Confused with rust but fungicide is not needed.

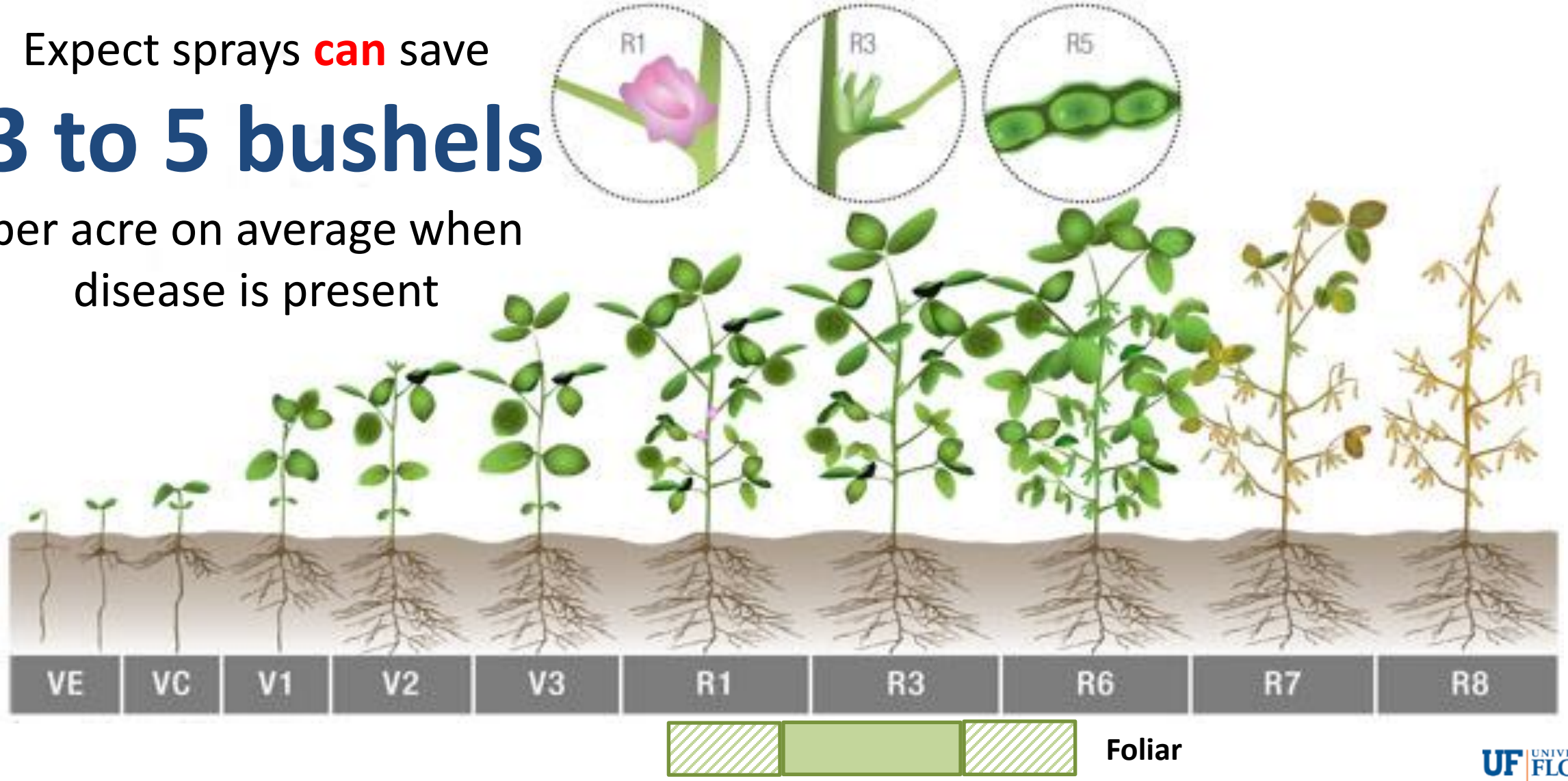
Photo: Sikora

Typically, you want to apply fungicides R2 to R4

Expect sprays **can** save

3 to 5 bushels

per acre on average when disease is present



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Fungicide resistance is present in soybean pathogens

- Frogeye leaf spot - QoI (FRAC 11)
- Cercospora leaf blight - QoI & MBC (FRAC 11 & 1)
- Septoria brown spot - QoI (FRAC 11)
- Target spot - QoI (FRAC 11)
- Aerial blight - QoI (FRAC 11)

In resistance situations, use two modes of action

Fungicide Efficacy for Control of Soybean Foliar Diseases Table (05/2023)

	Active ingredient (%)	Product/Trade name	Rate/A (fl oz)	Aerial web blight	Brown spot[2]	Cercospora leaf blight[3]	Frogeye leaf spot[4]	*Diaporthe* (Pod and stem blight)	Soybean rust	Target spot	White mold[5]
11	Azoxystrobin 22.9%	Quadris 2.08 SC, multiple generics	6.0 – 15.5	VG	P-G	P	P	U	G-VG	P-F	P
	Fluoxastrobin 40.3%	Aftershock 480 SC, Evito 480 SC	2.0 – 5.7	VG	P-G	P	P	U	U	U	NL
	Picoxystrobin 22.5%	Aproach 2.08 SC	6.0 – 12.0	VG	P-G	P	P	U	G	U	G[8]
	Pyraclostrobin 23.6%	Headline 2.09 EC/SC	6.0 – 12.0	VG	P-G	P	P	U	VG	P-F	NL
3	Cyproconazole 8.9%	Alto 100SL	2.75 – 5.5	U	VG	F	F	U	VG	U	NL
	Flutriafol 11.8%	Topguard 1.04 SC	7.0 – 14.0	U	VG	P-G	G-VG	U	VG-E	P	F
	Propiconazole 41.8%	Tilt 3.6 EC, multiple generics	4.0 – 6.0	P	G	NL	F	NL	VG	U	NL
	Prothioconazole 41.0%	Proline 480 SC[6]	2.5 – 5.0	NL	NL	NL	G-VG	NL	VG	U	F
	Tetraconazole 20.5%	Domark 230 ME multiple generics	4.0 – 5.0	NL	VG	P-G	F-G	U	VG-E	P	F
1	Thiophanate-methyl 70%	Topsin-M, multiple generics	10.0 – 20.0	U	U	F	G-VG	U	G	U	F
29	Fluazinam 40.0%	Omega 500 DF	12.0– 16.0	NL	NL	NL	NL	NL	NL	U	G
7	Boscalid 70%	Endura 0.7 DF	3.5 – 11.0	U	VG	U	P	NL	NL	U	VG
	Inpyrfluxam 31.25%	Excalia 2.84 SC	2.0	E	NL	NL	NL	NL	U	NL	NL

Premixes can help take some of the guess work out of fungicide selection when resistance is present.

Fungicide Efficacy for Control of Soybean Foliar Diseases Table (05/2023)

	Active Ingredient (%)	Product/Trade name	Rate/A (fl oz)	Aerial web blight	Brown spot[2]	Cercospora leaf blight[3]	Frogeye leaf spot[4]	*Diaporthe* (Pod and stem blight)	Soybean rust	Target spot	White mold[5]
11 3	Trifloxystrobin 13.7% Prothioconazole 16.0%	Delaro 325 SC	8.0 – 11.0	VG	VG	U	G-VG	U	U	NL	F
7 11 3	Fluopyram 10.9% Trifloxystrobin 13.1% Prothioconazole 14.9%	Delaro Complete 3.83 SC	8.0 – 11.0	U	VG	U	U	U	U	NL	U
7 3	Pydiflumetofen 6.9% Difenoconazole 11.5%	Miravis Top 1.67 SC	13.7	VG	VG	F-G	G-VG	G	NL	F-G	U
11 3	Trifloxystrobin 32.3% Prothioconazole 10.8%	Stratego YLD 4.18 SC[7]	4.0 – 4.65	VG	G	F	F-G	U	VG	P	NL
11 3	Azoxystrobin 9.35% Tetraconazole 7.48%	Affiance 1.5 SC	10.0 – 14.0	U	VG	F	F-G	U	U	U	U
11 3	Fluoxastrobin 17.76% Tetraconazole 17.76%	Zolera FX 3.34 SC	4.4 – 6.8	U	U	U	F-G	U	U	U	U
1 3	Thiophanate-methyl 21.27% Tetraconazole 4.20%	Acropolis	20.0 – 23.0	NL	U	U	G-VG	U	VG-E	U	U
7 11 3	Fluxapyroxad 7.74% Pyraclostrobin 15.49% Mefentrifluconazole 11.61%	Revytek	8.0 – 15.0	VG	VG	F-VG	G-VG	U	VG-E	F-VG	P

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Expect more generics used in 2025, that's not all bad

	Active ingredient (%)	Product/Trade name	Rate/A (fl oz)	Commonly tested rate/A (fl/oz)	PHI	Aerial web blight	Brown spot[2]	Cercospora leaf blight[3]	Frogeye leaf spot[4]
11	Azoxystrobin 22.9%	Quadris 2.08 SC, multiple generics	6.0-15.5	6	14	VG	P-G	P	P
	Fluoxastrobin 40.3%	Aftershock 480 SC, Evito 480 SC	2.0-5.7	4	30	NL	P-G	P	P
	Picoxystrobin 22.5%	Aproach 2.08 SC	6.0-12.0	9	14	VG	P-G	P	P
	Pyraclostrobin 23.6%	Headline 2.09 EC/SC	6.0-12.0	12	21	NL	P-G	P	P
3	Cyproconazole 8.9%	Alto 100SL	2.75-5.5	NA	14	U	VG	F	NL
	Flutriafol 11.8%	Topguard 1.04 SC	7.0-14.0	7	21	NL	VG	P-G	G-VG
	Propiconazole 41.8%	Tilt 3.6 EC, multiple generics	4.0-6.0	4	R5	P	G	NL	F
	Prothioconazole 41.0%	Proline 490 SC[6]	2.5-5.0	5	21	NL	NL	NL	G-VG
	Tetraconazole 20.5%	Domark 230 ME, multiple generics	4.0-5.0	5	R5	NL	VG	P-G	F-G
1	Thiophanate-methyl 70%	Topsin-M, multiple generics	10.0-20.0	20	21	U	U	NL	G-VG
29	Fluazinam 40.0%	Omega 500 DF	12.0-16.0	16	30	NL	NL	NL	NL
7	Boscalid 70%	Endura 0.7 DF	3.5-11.0	8	21	NL	NL	U	P
	Inpyrfluxam 31.25%	Excalia 2.84 SC	2.0	2	R5	E	NL	NL	NL
11	Azoxystrobin 25.30%	Topguard EQ 4.29 SC	5.0-8.0	5	21	VG	VG	U	G-VG
3	Flutriafol 18.63%								
11	Azoxystrobin 18.2%	Quadris Top 2.72 SC	8.0-14.0	8	14	U	G-VG	P-G	G-VG
3	Difenoconazole 11.4%								
11	Azoxystrobin 19.8%	Quadris Top SBX 3.76 SC	7.0-7.5	7	14	VG	G-VG	P-G	G-VG
3	Difenoconazole 19.8%								

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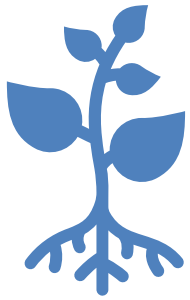
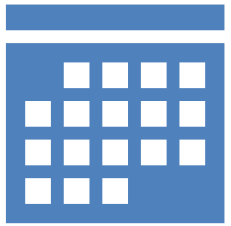
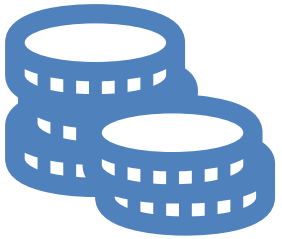
Corn Disease Management: Take home messages



Fungicides reduce disease, **can** save yields

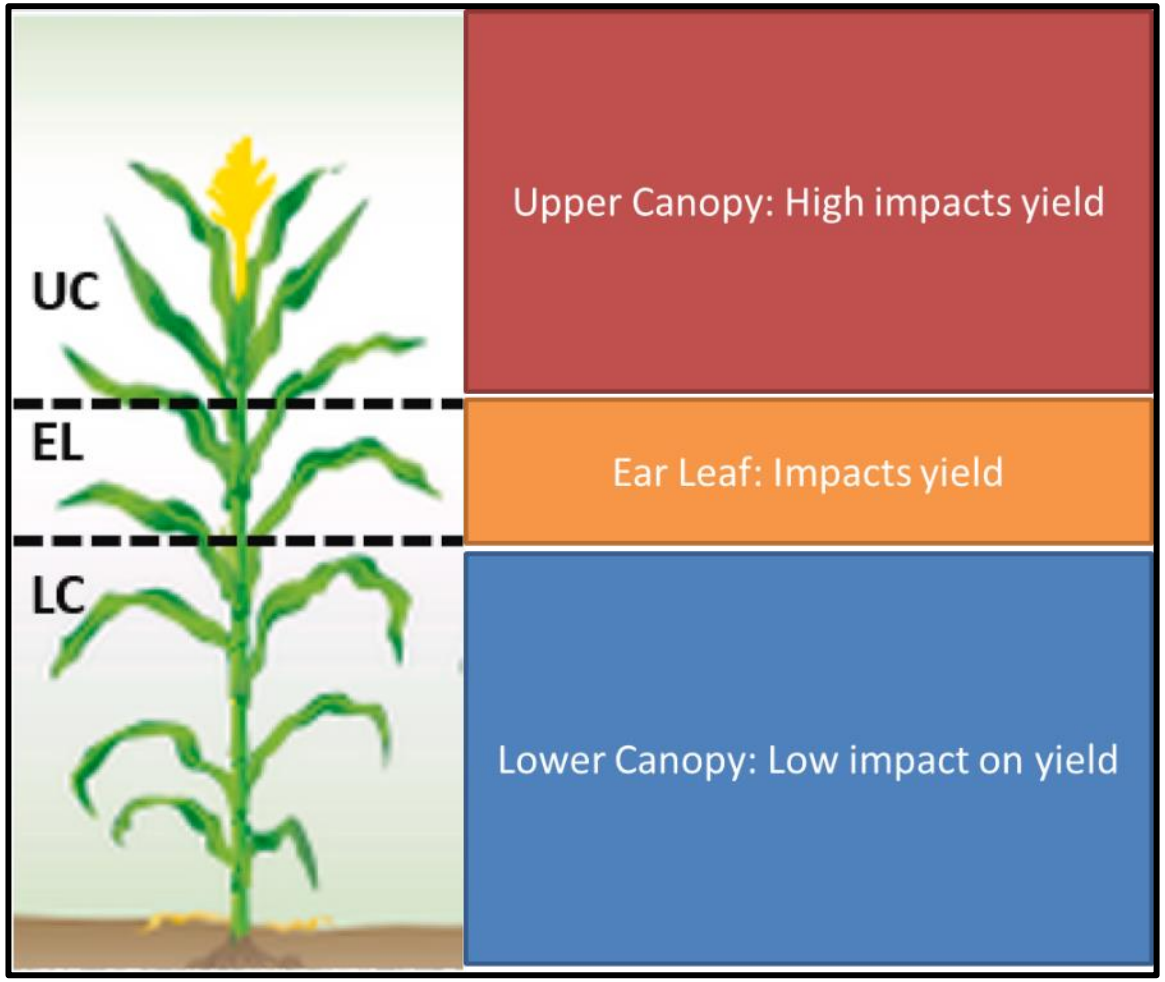


Consider protection from V10 to VT



Costs; think how much 5 to 10 bushels means

Lower canopy disease can be okay; considering yield



Threshold to consider

5%

Ear leaf covered with disease

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Which is Northern Corn Leaf Blight?

Northen Corn Leaf Blight

elliptical lesion that turns tan
runs parallel to the leaf margins

Northern Corn Leaf Spot

oblong, brown spots with concentric rings
surrounded by darker borders

Had a lot of NCLS in sweet corn during the 2022 and 2023 seasons

Diseases of concern in Florida

Southern Rust

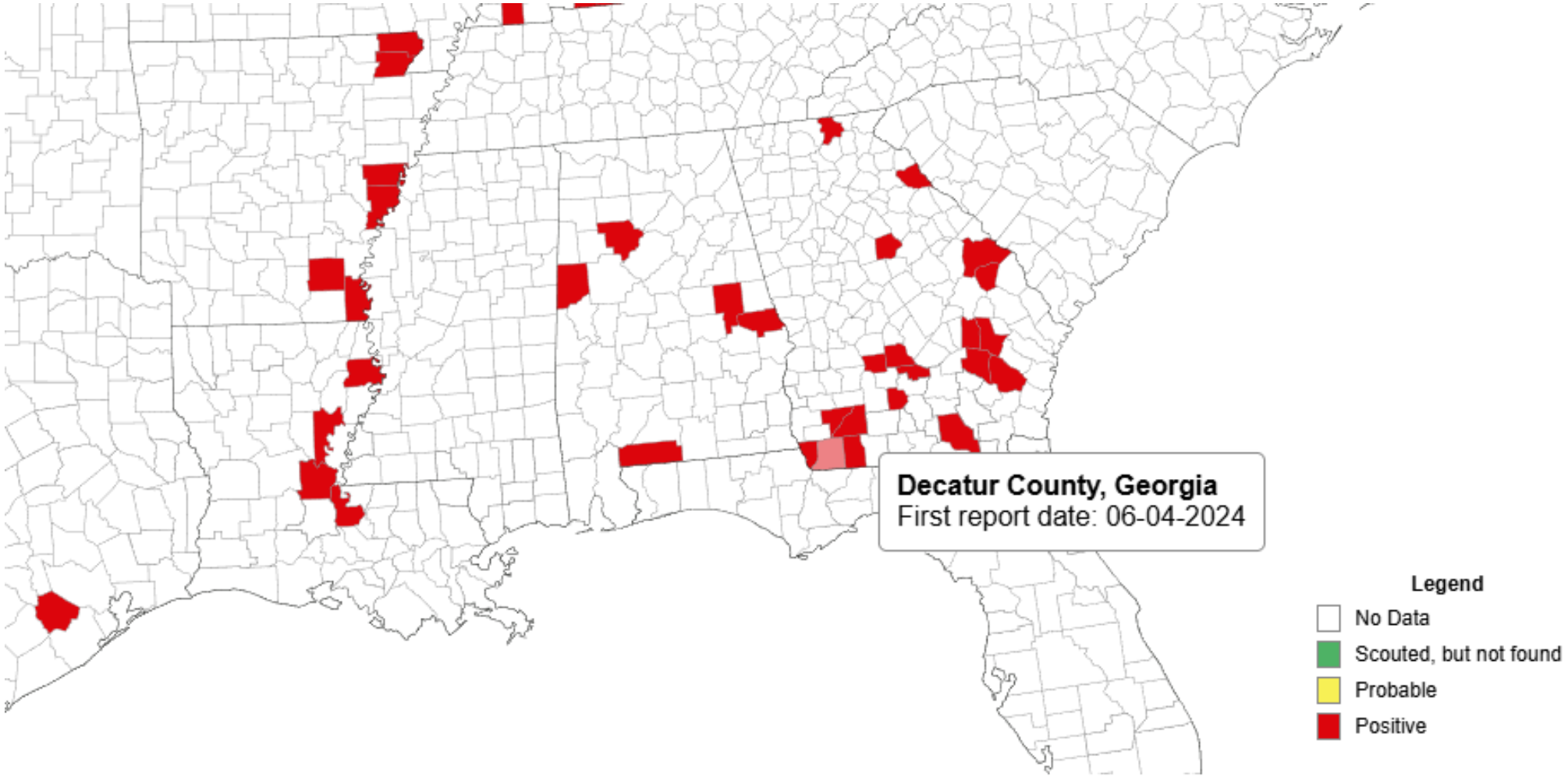
pustules smaller and on upper leaf surface
more of an orange color

Common Rust

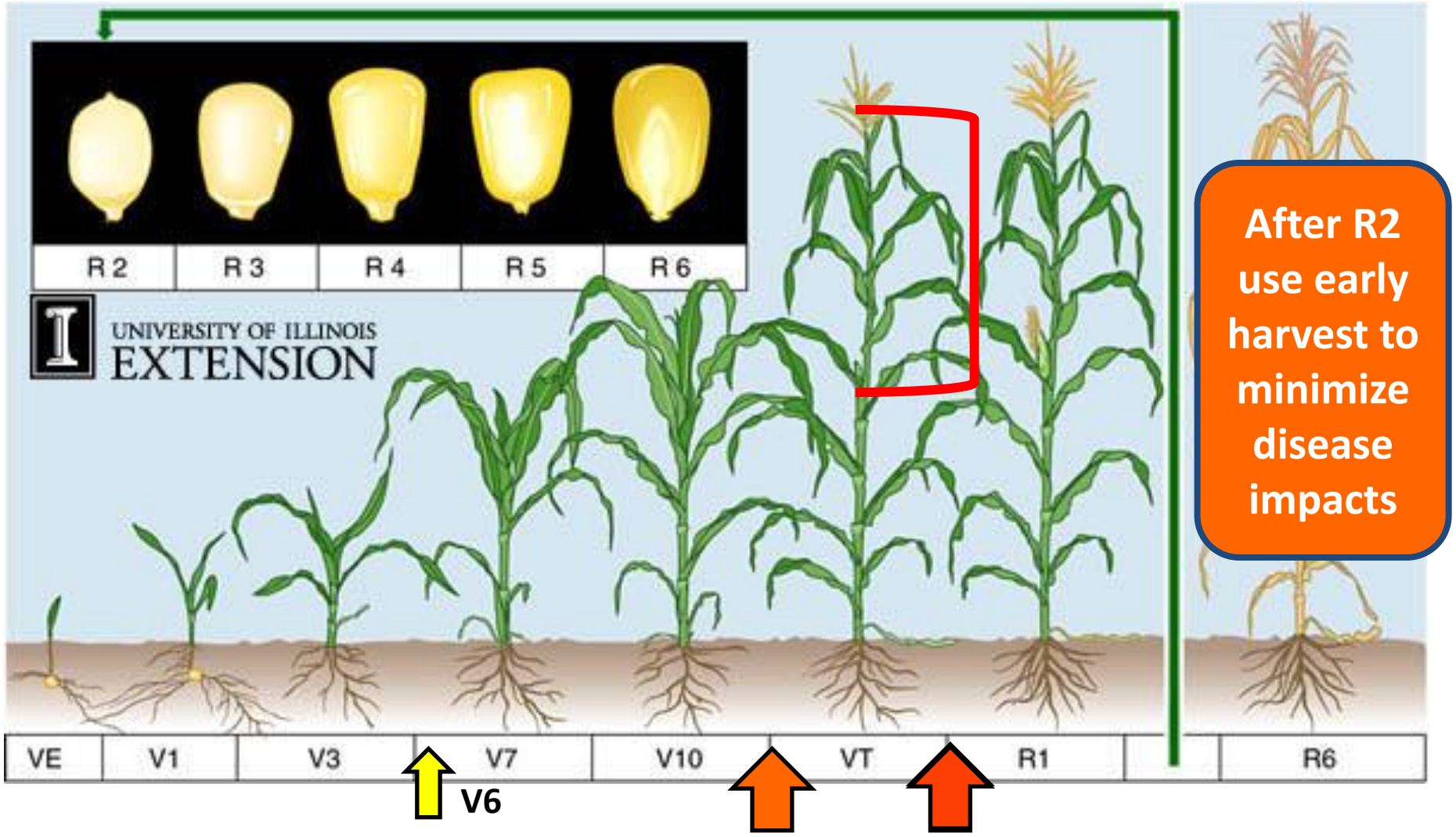
pustules on upper and lower surface
more of a brown color

Host resistance and timing of fungicides ahead of the disease is critical as they can spread fast.

Scout for Southern rust late May and early June



Fungicide timing is critical to tissue that is protected, silage



When a spray is needed, there are many options available

Fungicide Efficacy for Control of Corn Diseases Table (03/2021)

	Active Ingredient (%)	Product/Trade name	Rate/A (fl oz)	Anthracnose leaf blight	Common rust	Eyespot	Gray leaf spot	Northern corn leaf blight	Southern rust	Tarspot[1]	Harvest restriction[2]
11	Azoxystrobin 22.9%	Quadris 2.08 SC, multiple generics	6.0 - 15.5	VG	E	VG	E	G	VG	NL	7 days
11	Headline 2.09 EC/SC	Headline 2.09 EC/SC	6.0 - 12.0	VG	E	E	E	VG	VG	NL	7 days
11	Aproach 2.08 SC	Aproach 2.08 SC	3.0 – 12.0	VG	VG-E	VG	F-VG	VG	G	G[3]	7 days
3	Flutriafol 20.9%	Xyway LFR 1.92 SC Xyway 3D 2.5 SC	LFR: 7.6-15.2 3D: 5.8-11.8	NL	U	NL	VG-E	VG	NL	NL	N/A
3	Propiconazole 41.8%	Tilt 3.6 EC, multiple generics	2.0 - 4.0	NL	VG	E	G	G	F	NL	30 days
3	Prothioconazole 41.0%	Proline 480 SC	5.7	U	VG	E	U	VG	G	NL	14 days
3	Tebuconazole 38.7%	Folicur 3.6 F, multiple generics	4.0 - 6.0	NL	U	NL	U	VG	F	NL	36 days
3	Tetraconazole 20.5%	Domark 230 ME	4.0 – 6.0	U	U	U	E	VG	G	G-VG[3]	R3 (milk)
11 3	Azoxystrobin 13.5% Propiconazole 11.7%	Quilt Xcel 2.2 SE, multiple generics	10.5 - 14.0	VG	VG-E	VG-E	E	VG	VG	G-VG[3]	30 days
7 11 3	Benzovindiflupyr 2.9% Azoxystrobin 10.5% Propiconazole 11.9%	Trivapro 2.21 SE	13.7	U	U	U	E	VG	E	G-VG	30 days
3 11	Cyproconazole 7.17% Picoxystrobin 17.94%	Aproach Prima 2.34 SC	3.4 – 6.8	U	U	U	E	VG	G	G-VG[3]	30 days
3 11	Flutriafol 19.3% Fluoxastrobin 14.84%	Fortix 3.22 SC Preemptor 3.22 SC	4.0 -6.0	U	U	U	E	VG	VG	G-VG[3]	R4 (dough)
3 7	Flutriafol 26.47% Bixafen 15.55%	Lucento	3.0-5.5	U	U	U	VG-E	VG	VG	G[3]	R4
3 11	Flutriafol 18.63% Azoxystrobin 25.30%	TopGuard EQ	5.0-7.0	U	F	U	VG	G	G	G-VG[3]	7 days
3 11	Mefentrifluconazole 17.56a5 Pyraclostrobin 17.56%	Veltyma	7.0-10.0	U	U	U	VG-E	VG-E	VG	G-VG	21 days
3 11 7	Mefentrifluconazole 11.61% Pyraclostrobin 15.49% Fluxapyroxad 7.74%	Revytek	8.0-15.0	U	U	U	VG-E	VG-E	VG	G-VG	21 days
3 11	Prothioconazole 16.0% Trifloxystrobin 13.7%	Delaro325 SC	8.0-12.0	VG	E	VG	E	VG	G-VG	G-VG	14 days
3 7 11	Prothioconazole 14.9% Trifloxystrobin 13.1% Fluopyram 10.9%	Delaro Complete[4] 3.83 SC	8.0-12.0	U	U	U	E	U	VG	G-VG	35 days
7 11 3	Pydiflumetofen 7.0% Azoxystrobin 9.3% Propiconazole 11.6%	Miravis Neo 2.5 SE	13.7	U	U	U	E	VG-E	VG	G-VG	30 days
11 7	Pyraclostrobin 28.58% Fluxapyroxad 14.33%	Priaxor 4.17 SC	4.0 – 8.0	U	VG	U	VG	VG-E	VG	G-VG[3]	21 days
11 3	Pyraclostrobin 13.6% Metconazole 5.1%	Headline AMP 1.68 SC	10.0 - 14.4	U	E	E	E	VG	G	G-VG	20 days
11 3	Trifloxystrobin 32.3% Prothioconazole 10.8%	Stratego YLD 4.18 SC	4.0 - 5.0	VG	E	VG	E	VG	G	NL	14 days
3 11	Tetraconazole 7.48% Azoxystrobin 9.35%	Affiance 1.5 SC	10.0-14.0	U	G-VG	U	G-VG	G-VG	G	G[3]	7 days

Indicates product with mixed fungicide classes

If only

1 spray

will be applied in the season, consider a mixed mode of action product (has 2 FRAC numbers)

Crop Protection Network

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What if a disease is not present?

- Before VT, possible to wait for an application
- At VT to R1, consider waiting until a threat is identified
  - Scout
  - Variety Resistance
  - Weather

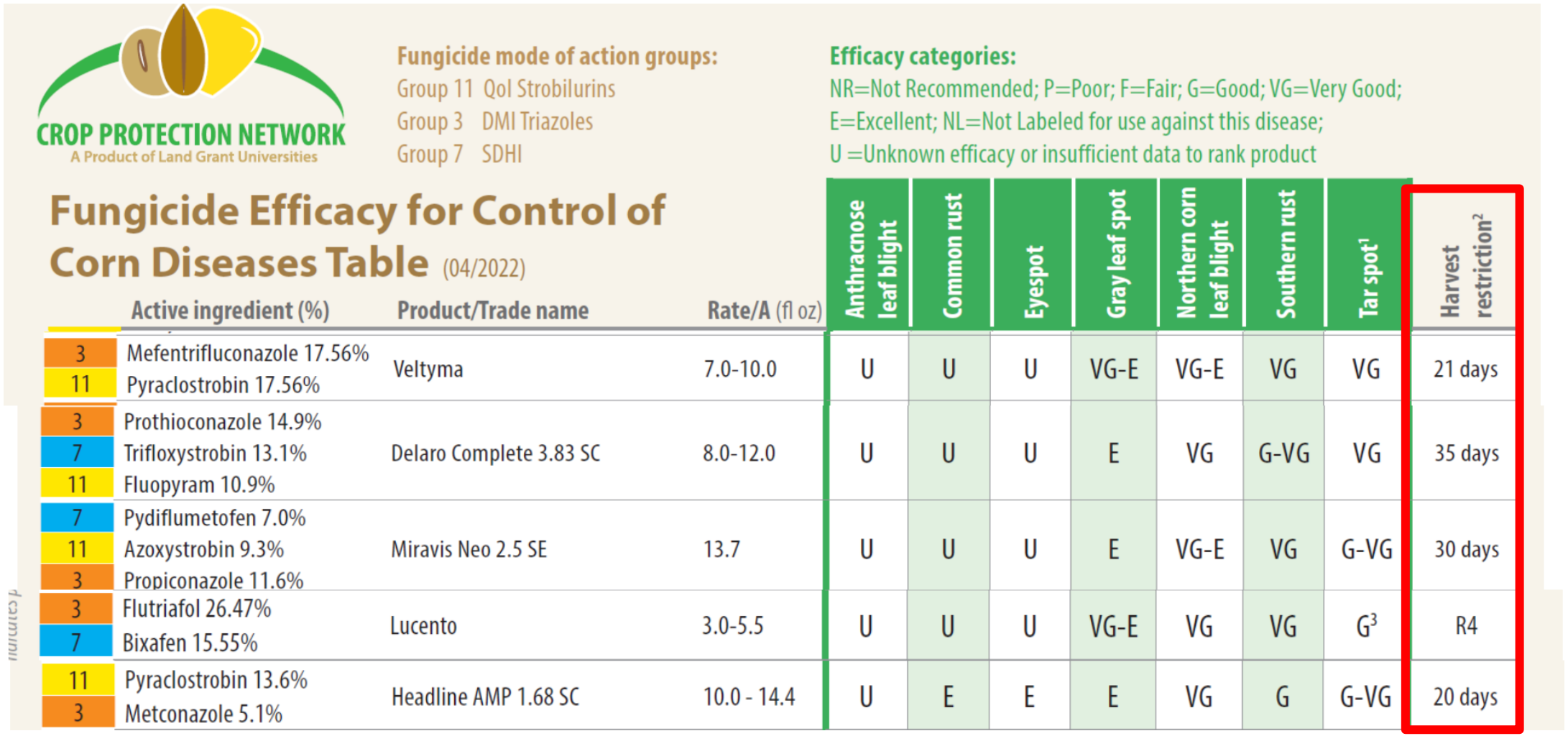
If disease is present and above the **5%** threshold, consider high rated fungicide (VG to E).

Fungicides can provide protection for a **max** of

3 weeks

after application and mostly to the plant parts they are applied to.

There are many effective products available



CROP PROTECTION NETWORK
A Product of Land Grant Universities

Fungicide mode of action groups:
Group 11 QoI Strobilurins
Group 3 DMI Triazoles
Group 7 SDHI

Efficacy categories:
NR=Not Recommended; P=Poor; F=Fair; G=Good; VG=Very Good;
E=Excellent; NL=Not Labeled for use against this disease;
U =Unknown efficacy or insufficient data to rank product

Fungicide Efficacy for Control of Corn Diseases Table (04/2022)

	Active ingredient (%)	Product/Trade name	Rate/A (fl oz)	Anthracnose leaf blight	Common rust	Eyespot	Gray leaf spot	Northern corn leaf blight	Southern rust	Tar spot[1]	Harvest restriction[2]
3 11	Mefentrifluconazole 17.56% Pyraclostrobin 17.56%	Veltyma	7.0-10.0	U	U	U	VG-E	VG-E	VG	VG	21 days
3 7 11	Prothioconazole 14.9% Trifloxystrobin 13.1% Fluopyram 10.9%	Delaro Complete 3.83 SC	8.0-12.0	U	U	U	E	VG	G-VG	VG	35 days
7 11 3	Pydiflumetofen 7.0% Azoxystrobin 9.3% Propiconazole 11.6%	Miravis Neo 2.5 SE	13.7	U	U	U	E	VG-E	VG	G-VG	30 days
3 7	Flutriafol 26.47% Bixafen 15.55%	Lucento	3.0-5.5	U	U	U	VG-E	VG	VG	G[3]	R4
11 3	Pyraclostrobin 13.6% Metconazole 5.1%	Headline AMP 1.68 SC	10.0 - 14.4	U	E	E	E	VG	G	G-VG	20 days

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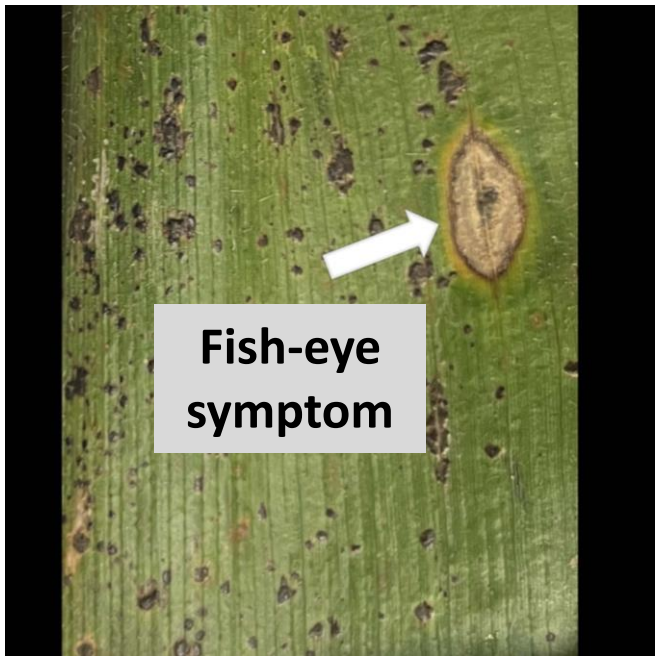
Tar spot of corn: A disease to keep watching for



Many fungicides are effective at reducing tar spot

Revytek™ Fungicide

8 fl oz/A

DELARO®

8 fl oz/A

Headline® Fungicide

6 fl oz/A

Aproach® Prima FUNGICIDE

6.8 fl oz/A

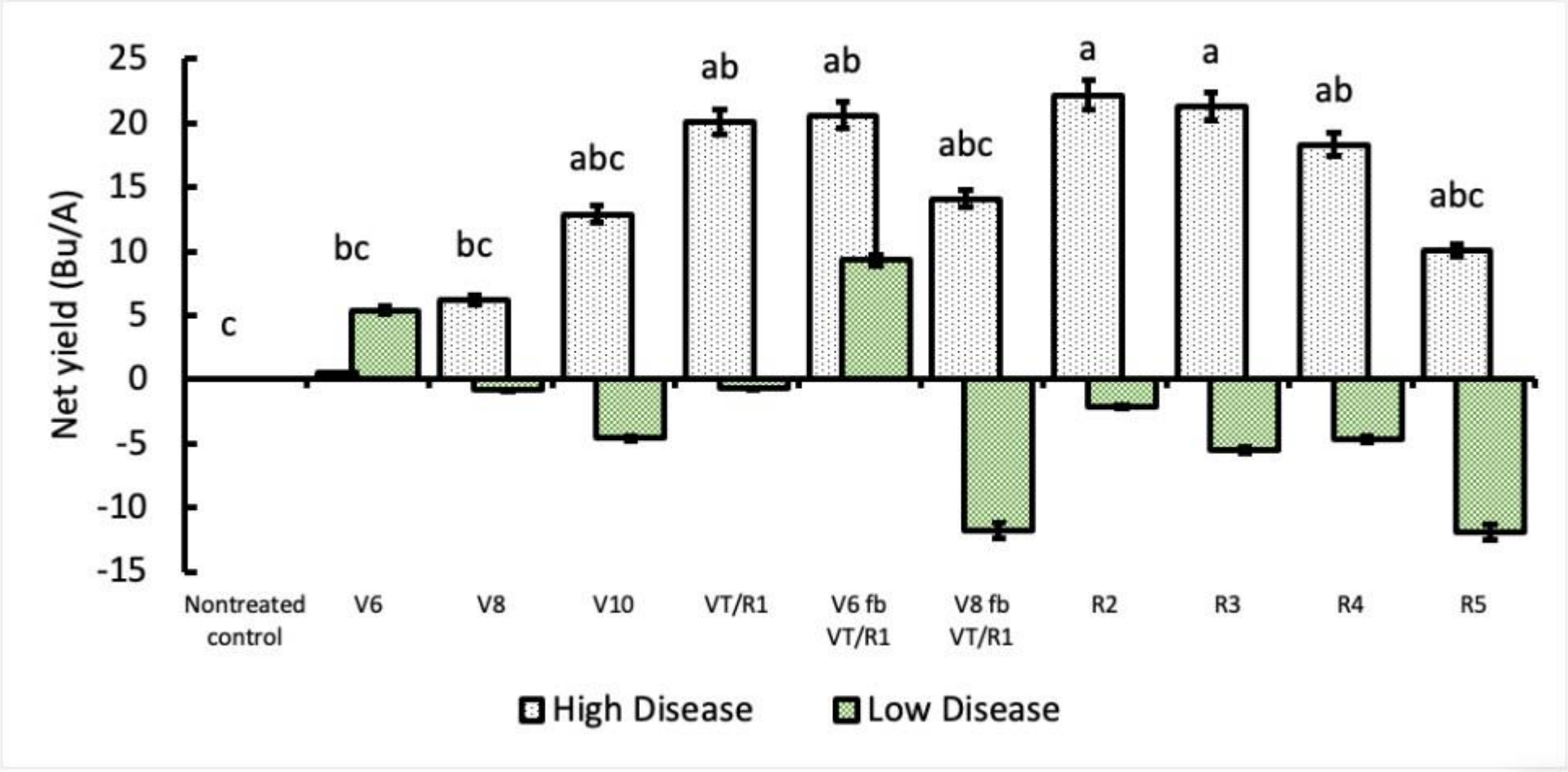
Veltyma® Revysol® Fungicide

7 fl oz/A

ALL

Fungicides tested provide some control of Tar Spot. These are the top 5.

Variety and disease intensity are important to ROI



High

Disease intensity with sprays around VT to R2 generally had the best net yield savings.

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The 3 things I would like you to take away are:

Scouting, monitoring and diagnosis can improve fungicide selection with efficacy guides.

Do not be late when it comes to managing disease (e.g. rusts can move fast)

Highest yield savings from a fungicide application occurs at R2 in soybeans and VT in corn.

Don’t hesitate to reach out to us!

Acknowledgements

Kevin Korus

Dr. Sikora

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https://cropprotectionnetwork.org/

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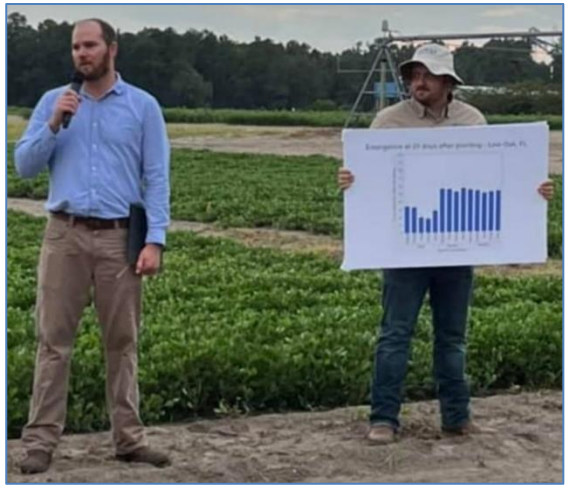

Dr. Ian Small

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“Keep the plants healthy, don’t let them get infected”