Disease Management Update

Luis Espino

University of California Cooperative Extension

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UC CE | UNIVERSITY OF CALIFORNIA Agriculture and Natural Resources | UC Cooperative Extension

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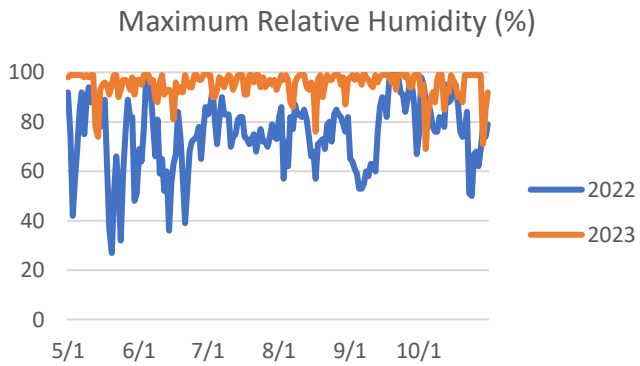
- Stem rot management guidelines
- Panicle rot

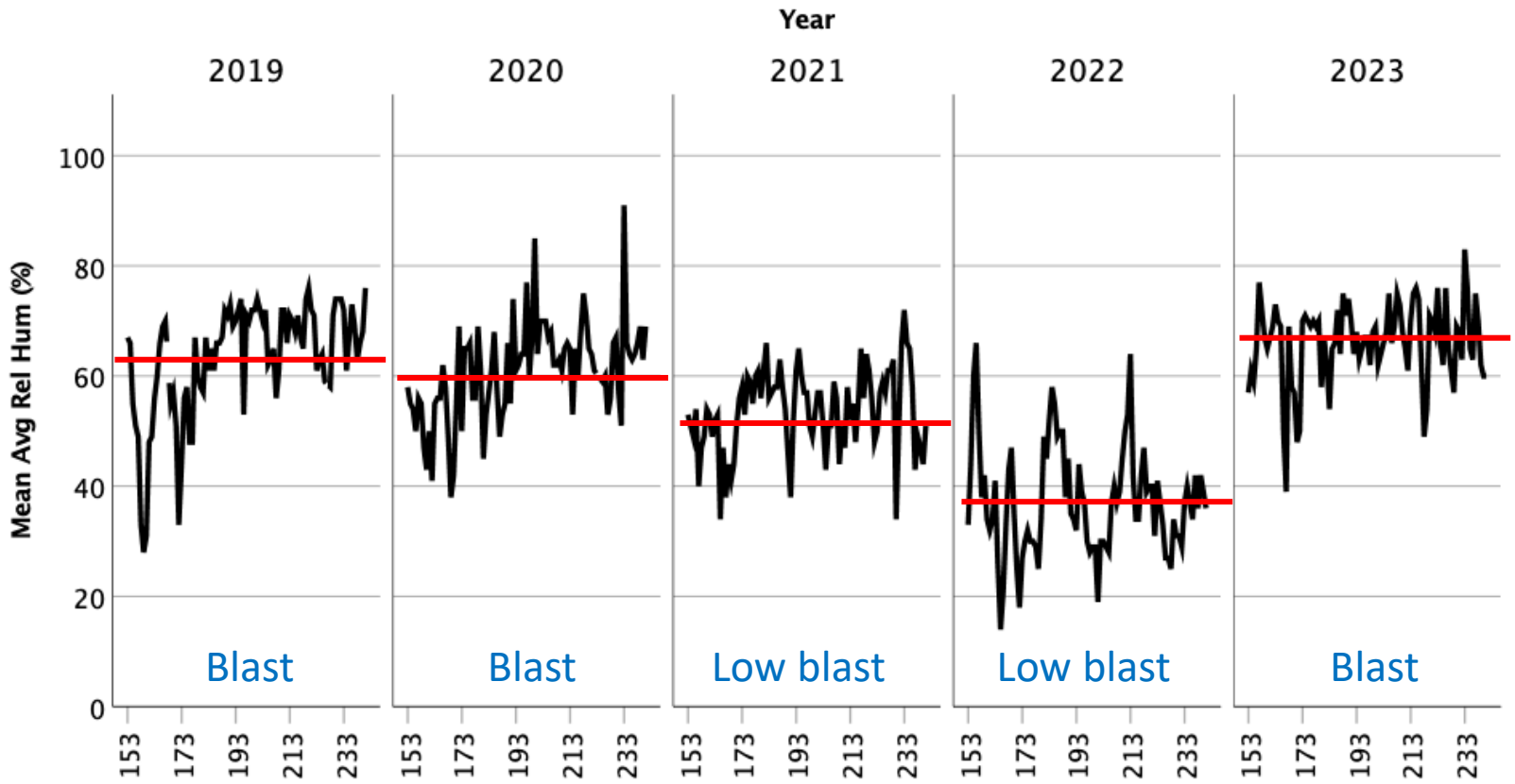
Blast in 2023

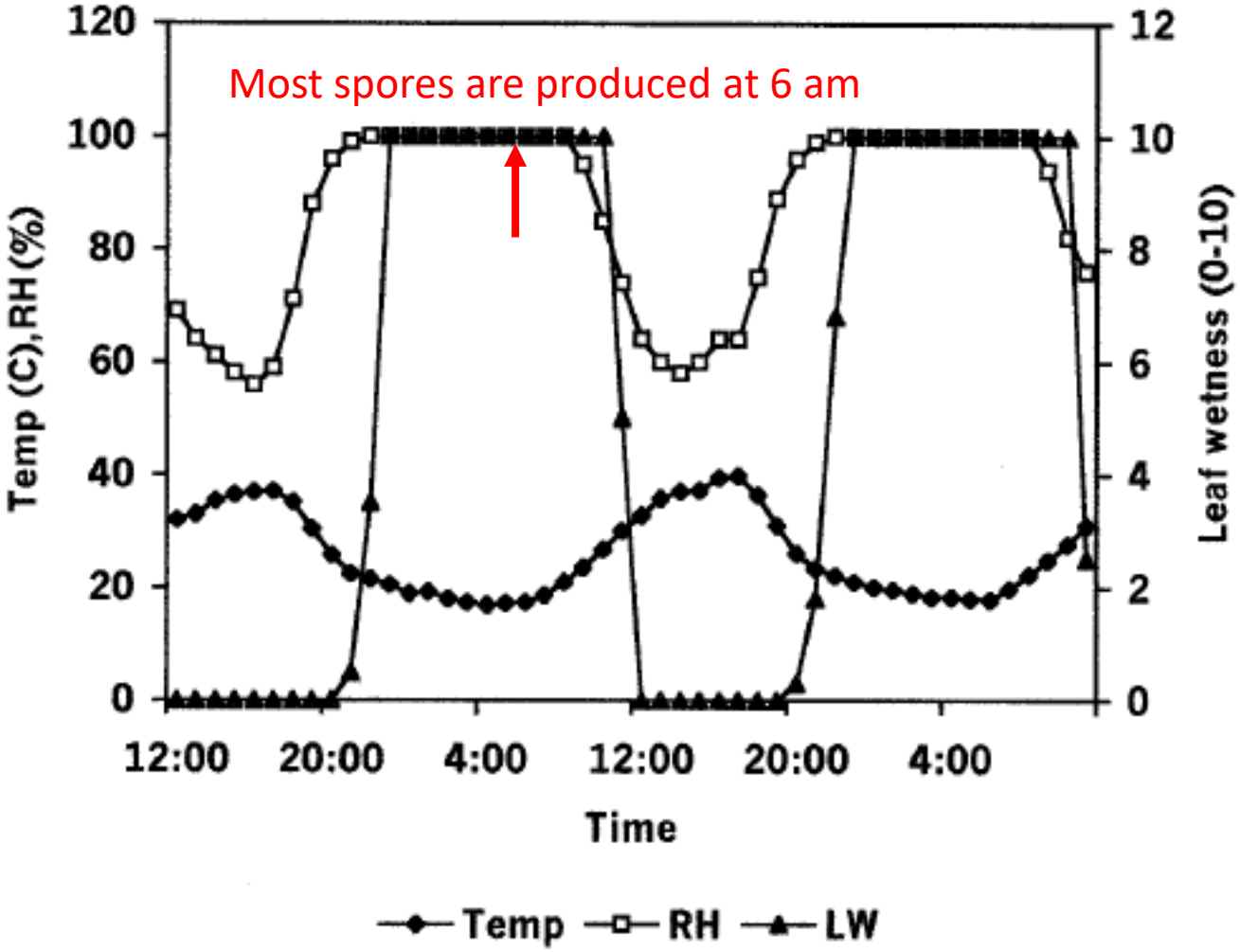
- Blast year
  - Higher relative humidity
- Varieties affected
  - M-105, M-206, M-211
- Severe in dry seeded rice
  - Glenn, Sutter



Blast in M-211

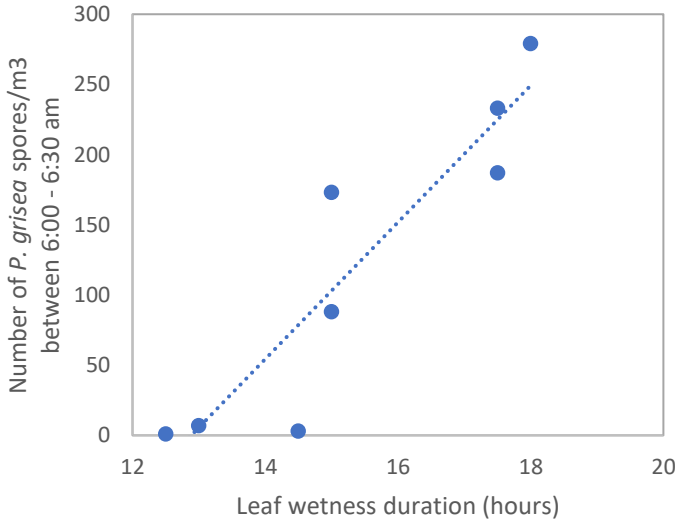
Average Relative Humidity at Willows June-August





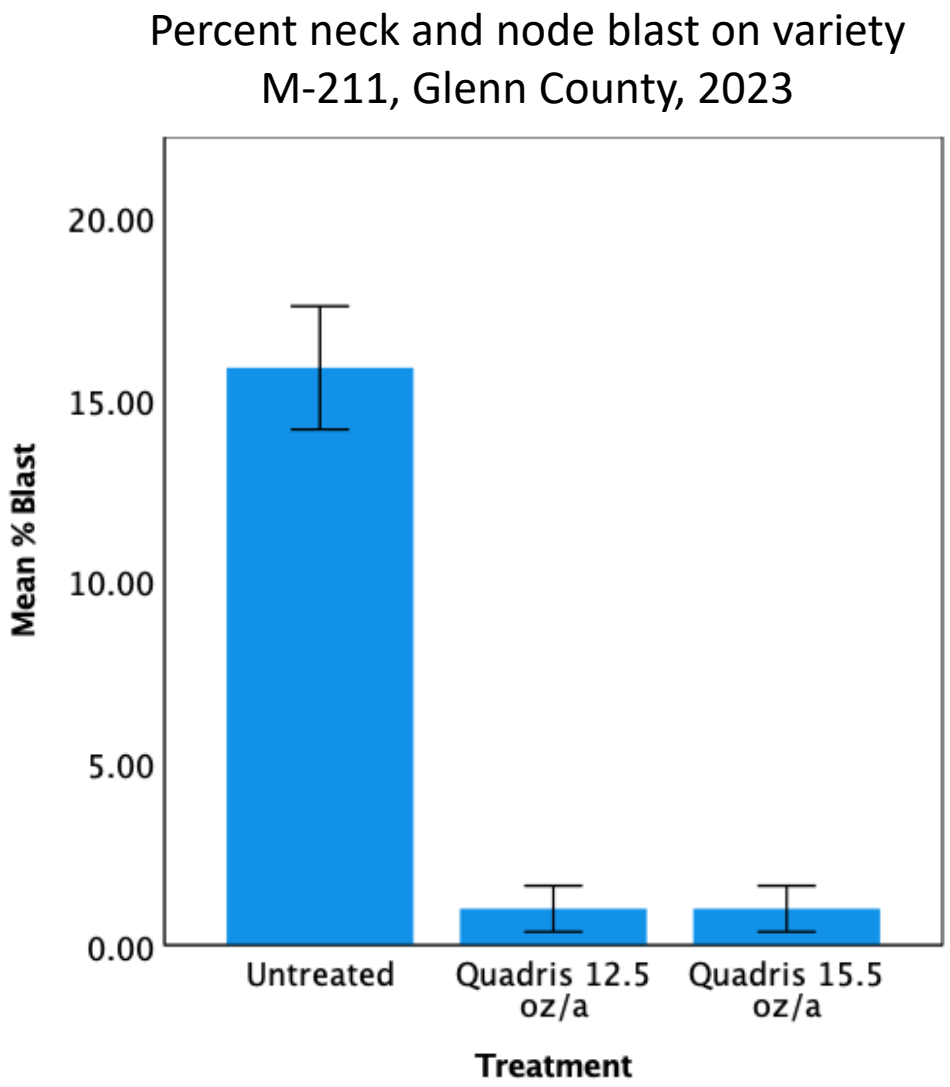
Time span needed for spore germination and infection: 8-10 hours at 26 C (79 F)

Effect of leaf wetness on spore production



Blast Management

- Avoid excess N
- Water management
- Variety – M-210
- Monitoring
  - Leaf blast
  - Start in N overlaps
- Fungicides
  - Azoxystrobin at late boot to very early heading



Blast Management

YEAR	M-206	M-210	M-206 - M-210
2015	9,480	9,660	-180
2016	10,002	10,030	-28
2017	8,819	8,879	-60
2018	9,020	9,130	-110
2019	8,975	9,045	-70
2020	9,127	9,043	84
2021	9,153	9,130	23
2022	8,584	8,640	-56
2023	8,543	8,507	36

Stem Rot Management Guidelines

Stem Rot Management Guidelines

- Severity levels are best determined at drain time

1-2 3 4

Severity levels

Stem rot severity level	Description
0	No disease
1	Disease lesions on outer leaf sheath
2	Disease lesions have penetrated into inner leaf sheaths
3	Disease lesions on culm
4	Culm is rotted through

Stem Rot Management Guidelines

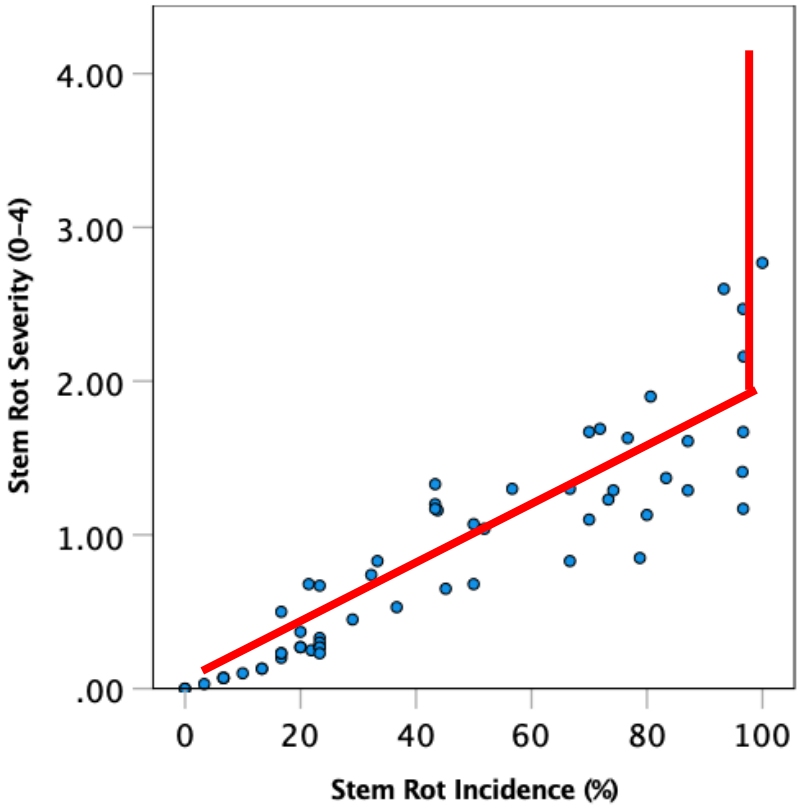
- 11 fungicide trials 2017-2022
- Reduction of yield as severity increases
  - 105-540 lbs/a reduction per unit increase in severity level
  - Average 3.2% yield reduction per unit increase in severity level

Yield loss (cwt) under three different yield potentials

Stem Rot Severity level	Yield potential (cwt/a)		
	90	100	110
1	3	3	4
2	6	6	7
3	9	10	11
4	12	13	14

Stem Rot Management Guidelines

Stem rot incidence vs severity

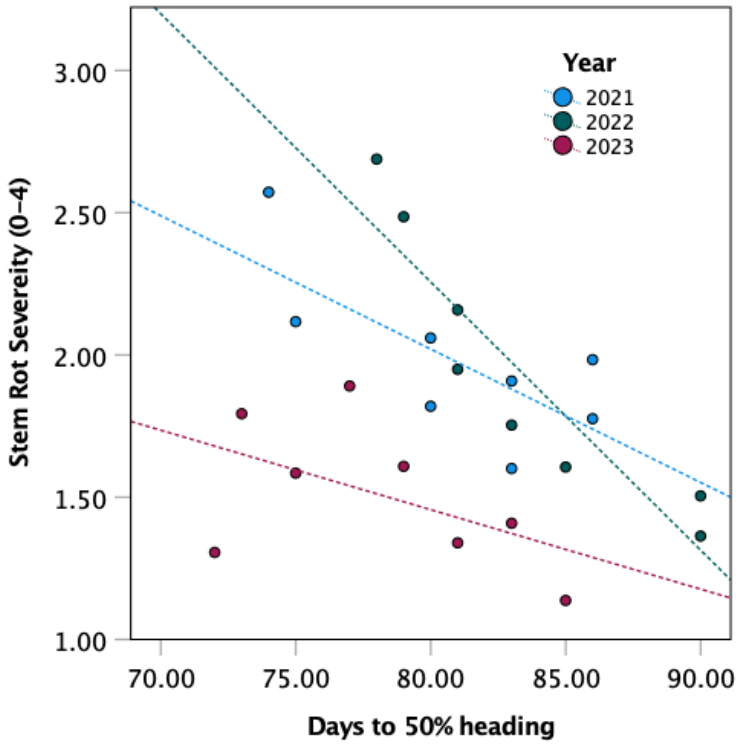


Sample tillers at drain time and determine incidence

- 50% incidence = Severity 1
- 100% incidence = Severity 2 or higher

Stem Rot Management Guidelines

- Determine % incidence at drain time to plan management actions for next year
- Manage residue
- Avoid excess N
- Make sure K is sufficient
- Short season varieties develop more stem rot than long season varieties
- Azoxy at late boot-early heading reduces SR severity by 30%



Other Pathogens

- *Nigrospora oryzae* – Panicle branch rot

Challenges and Opportunities for U.S. Organic Rice

- Production of organic rice in the U.S. lags demand, and imports account for around 20-25% of the domestic demand

- Objective: identify risks of organic production and barriers to expanding

- Will launch survey of producers at the end of January

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UofA DIVISION OF AGRICULTURE RESEARCH & EXTENSION University of Arkansas System

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