

2010 Corn Disease and Nematode Management

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Thomas County
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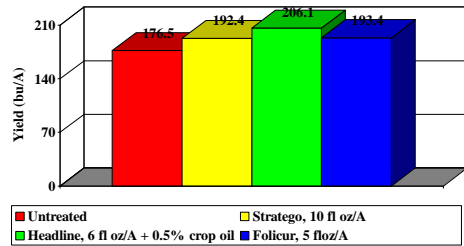
Report from 2009

- Southern corn rust appeared again in 2009, though arrival was late in season.
- Impact of nematodes continued to be of interest and concern.
- Most important from last season: Northern Corn Leaf Blight
 - Macon County: 1 field, grower fertilizes and irrigates for 200+ bu/A
 - Yields 70 bu/A due to NCLB

Fungicides for Corn

- Tilt (propiconazole): 2-4 fl oz/A 
- Folicur (tebuconazole): 6 fl oz 
- Stratego (Tilt + trifloxystrobin): 7.0-12.0 fl oz/A 
- Quadris (azoxystrobin): 6.2-15.4 fl oz/A 
- Quilt: Quadris + Tilt
- Quadris Xcel: Quadris + Tilt
- Headline (pyraclostrobin): 6.0 fl oz, single application 

2009 Corn Fungicide Trial Lang Farm, Tifton



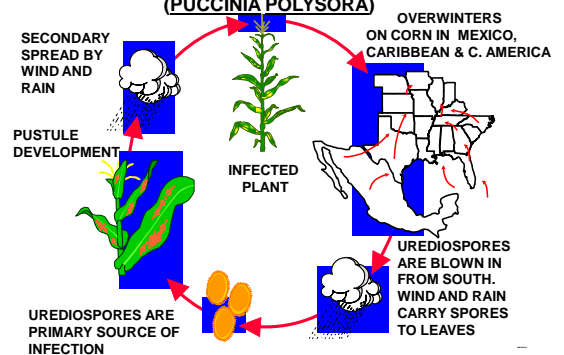
Southern Rust



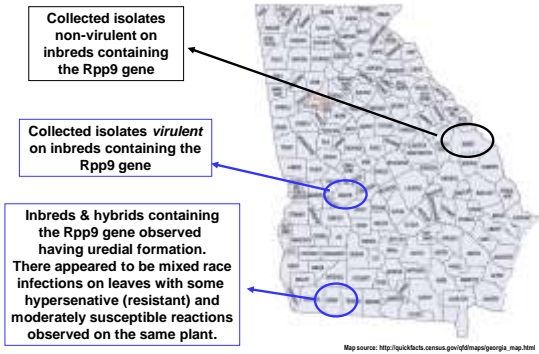
Southern rust pustules on corn leaf.
Photos: R. G. McDaniel and W. Duffie



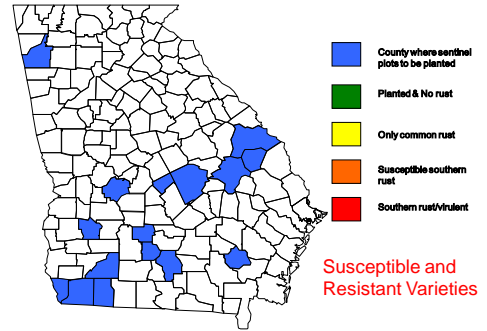
SOUTHERN RUST DISEASE CYCLE (PUCCINIA POLYSORA)



2008 Southern Rust Outbreak- GA



2009 Sentinel Corn Plots- monitored biweekly



Northern Corn Leaf Blight

- *Exserohilum turcicum*
- varietal resistance
- crop rotation
- field sanitation
- FUNGICIDES

Damage to northern corn leaf blight in 2009, Seminole and Burke Counties

Northern corn leaf blight was obvious as early as May-June.

Why Northern Corn Leaf Blight?

- NCLB was a problem in 2008 and 2009.
 - I expect it to be a problem in 2010.
- Why? No one really knows; however here are some "theories".
 - Race shift of the fungus to greater virulence.
 - Insufficient screening of new hybrids for resistance.
- Unlike southern corn rust, spores of the northern corn leaf blight pathogen will survive the winter in crop debris.
 - Increased corn acreage and corn planted behind corn lead to spore increase.

2010 Fungicide Applications

- Should I spray?
 - Yield expectations
 - Susceptible/resistant variety?
 - Corn behind corn?
 - Environmental conditions
 - Information from sentinel plots
 - Fungicide selection:
 - Southern rust alone- any of our labeled fungicides
 - Northern corn leaf blight in the mix: strobilurin and/or strobilurin-triazole mix
 - Timing:
 - Probably not before 1st tassel.
 - Southern rust: where has it been detected???
 - Northern corn leaf blight- as early as first tassel if found in susceptible variety.
 - Number of sprays:
 - Three week interval? Weather conditions?
-
- Will Duffie



Parasitic Nematodes of Corn

- Root-knot nematodes
 - cotton (*M. incognita*) and peanut (*M. arenaria*)
- Lesion nematodes
 - peanut (*Pratylenchus*)
- Sting nematodes
 - cotton (*Belonolaimus*)
- Stubby-root nematode (*Paratrichodorus*)
- Columbia lance nematode
 - cotton (*Hoplolaimus*)

Parasitic Nematodes of Corn

- In Georgia, we have likely ignored the importance of nematodes on corn because:
 - Failure to recognize symptoms
 - Faith that nematodes cause less damage on corn than on other crops, e.g. soybeans and cotton.
 - Belief that corn prices are low and nematicide prices are high, so we can't afford to treat for them.

2009 Corn Nematicide Trial Mitchell County Morrell Farms

Kemerait UGA Corn Nematode Management Program
Edd Harrison, County Agent
Variety: NK77P 3000
Telone II: Pre-plant 3 gal/A + Cruiser
Counter 15G: At-plant 7 lb/A + Cruiser
AVICTA Complete Corn seed treatment
Cruiser seed treatment

Irrigated field; moderate level of southern root-knot nematodes



Managing Nematodes of Corn

- Nematicides can:
 - Increase yields
 - Increase earliness
 - Better utilize nutrients
 - Improve growth
 - Improve stands
- Choice of nematicide:
 - Telone II gives marked growth response. Also; great yield response in high pressure.
 - Counter 15G- standard treatment; often growth response, should help yields.
 - AVICTA Complete Corn- seems to help growth, reduce early season damage and may help yields in lower pressure fields.

Dr. Bob Kemerait – Univ. of Georgia