

Pest Management in Silage Crops From planting to harvesting

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FORAGE TEAM

Outline

Getting a good start
Land preparation
Fertilization
Weed control

Insects and diseases
Main diseases
Prevention
Effects on silage quality



How to kill the pests?



How to prevent the pests?



Preventing...

Give the opportunity/conditions for the plants to succeed!

Crop rotation	Conditions at planting	Fertilization	
Cover crops	Hybrid selection	Irrigation	
Clear fields	Planting Date	Pest control	



Starting off right

Clean site

Crop rotation

Cover crop

Weed suppression prior to planting



Pictures: David Wright



Planting

Early planting date

- Less weeds, more moisture, higher yield potential, cool nights and long days
- Less disease and insect pressure

Right conditions – moisture and temperature -> fast emergence

- Corn 55 °F soil
- Sorghum 65 °F soil

Row spacing

- Narrow rows (20 in) better use of area and resources, faster cover and higher yields
- Complications: equipment (especially sprayers and spreaders)
- Twin rows







Seed treatment and starter fertilizers

Soil insecticide

- Counter (terbufos) wireworm
- Bifitherin rootworm

Seed treatment

Concept – Sorghum (protect from Dual herbicide)

Fertilization

- Dry N, K and micro incorporated 34-0-90-5
- Liquid NPK 17-56-0



Fertilization

Nutrient	Grain	Stover	Total
	lbs/ac		
Nitrogen	170	70	240
Phosphorus (as P205)	30	30	60
Potassium (as K ₂ 0)	48	192	240
Calcium	15	42	57
Magnesium	16	34	60
Sulfur	14	16	30
Zinc	0.15	0.54	0.69

EDIS AG202 – Field Corn Production Guide



Choosing the herbicide





Applications

Pre

- Pre-planting Atrazine; + broad spectrum (glyphosate); + Prowl for heavily infested areas
- Pre-emergent Atrazine, Simazine, Axiom, Outlook, Dual,

Post-emergent

- Annual and perennial grasses (Johnsongrass) Accent (do not apply if used Counter)
- Pigweed and morningglory Status, Aim, Ladius,
- Sedge Sandea
- Dicamba not for lactating cattle

No-till

- Gramoxone 10 14 d prior planting
- Sharpen, Integrity (80 d withdrawn period)
- Glyphosate Roundup Ready (RR) corn



Our protocol for pest control – Corn

At planting

- Dual + Prowl at planting
- Atrazine + crop oil

At 12"

- Fungicide Headline AMP
- Insecticide if needed Besiege
- Herbicide glyphosate if RR, otherwise dicamba or 2,4-D



Insects and diseases



Disease Management



Infection occurs between 77-82°F

Polycyclic

 Infection to spore production occurs in 7 days

 Not the same species that infects forage grasses

SOUTHERN RUST DISEASE CYCLE

(Puccinea polysora)



Box plots of disease severity ratings for southern corn rust with fungicides sprays at V5 and VT for the products indicated. The variety was Dekalb DKC66-97.



Spray timing based on corn growth stage

N. Dufault, and C. Velez-Climent, 2017. Corn Disease Management: When to apply a fungicide? Panhandle Ag e-News. http://nwdistrict.ifas.ufl.edu/phag/2017/06/16/corn-disease-management-when-to-apply-a-fungicide/



Yield savings in bu/A for Priaxor (4 fl oz/A) and Headline AMP (10 fl oz/A) when compared to the untreated control for single sprays at V5 and VT.



N. Dufault, and C. Velez-Climent, 2017. Corn Disease Management: When to apply a fungicide? Panhandle Ag e-News. http://nwdistrict.ifas.ufl.edu/phag/2017/06/16/corn-disease-management-when-to-apply-a-fungicide/



Common Ear Rots

Infection commonly occurs at ear tip through silks or as a result of insect feeding



Infection commonly occurs at base of ear

UF IFAS Extension

Ohio State University Extension

Diplodia



Fusarium Ear Rot





Risk Factors and Stressful Conditions Favoring Ear Rot and Grain Mold Development

Moisture stress

Extreme weather conditions

Infected crop residue

Continuous corn production

Susceptible hybrids

Damaged grain

High moisture storage conditions

Ear injury



Insect Management

Crop rotation

Host resistance

Scouting

Removal of weedy hosts

Insecticides

Cornsilk fly



Sap beetles



Corn earworm



Armyworm







Questions?