



ACRES OF GOLD

THE CORN YIELD OPTIMIZATION GUIDE

LATE SEASON (R2—R6)

ENVIRONMENT

CORN PLANT DEVELOPMENT

Continuing to evaluate corn stand development is key to optimizing on-farm success throughout the growing season.



VEGETATIVE (R1)

- New leaves emerging every 2-3 days.
- Period of rapid uptake of nutrients and moisture and rapid plant growth.

REPRODUCTIVE (R2)

- Blister - Kernels form a small blister containing clear fluid..
- Embryo is developing in every kernel.
- Kernels 85% moisture.



REPRODUCTIVE (R4)

- Dough - Starch has dough-like consistency
- Drought or disease stress will usually result in reducing kernel depth and test weight.
- Kernels 70% moisture.



REPRODUCTIVE (R3)

- Milk - Clear fluid in kernels begins to turn milky white as starch accumulates.
- Stress during this stage can cause kernel abortion.



REPRODUCTIVE (R5)

- Dent - Kernels are dented.
- Occurs about 35-40 days after silking.
- Cob has distinct color - white, pink or red.
- Kernels 55% moisture.
- Silage harvest begins sometimes during this stage, depending on desired whole plant moisture.



REPRODUCTIVE (R5)

- Black Layer - Physiological maturity
- Final yield potential has been determined, frost has no impact on yield.
- Kernels 30%-35% moisture.





LATE SEASON (R2—R6)

PRODUCT SELECTION

EVALUATION OF PRODUCT SELECTION

Scouting during grain fill is important to begin understanding how the individual products and overall package of genetics you've planted are performing in the field.

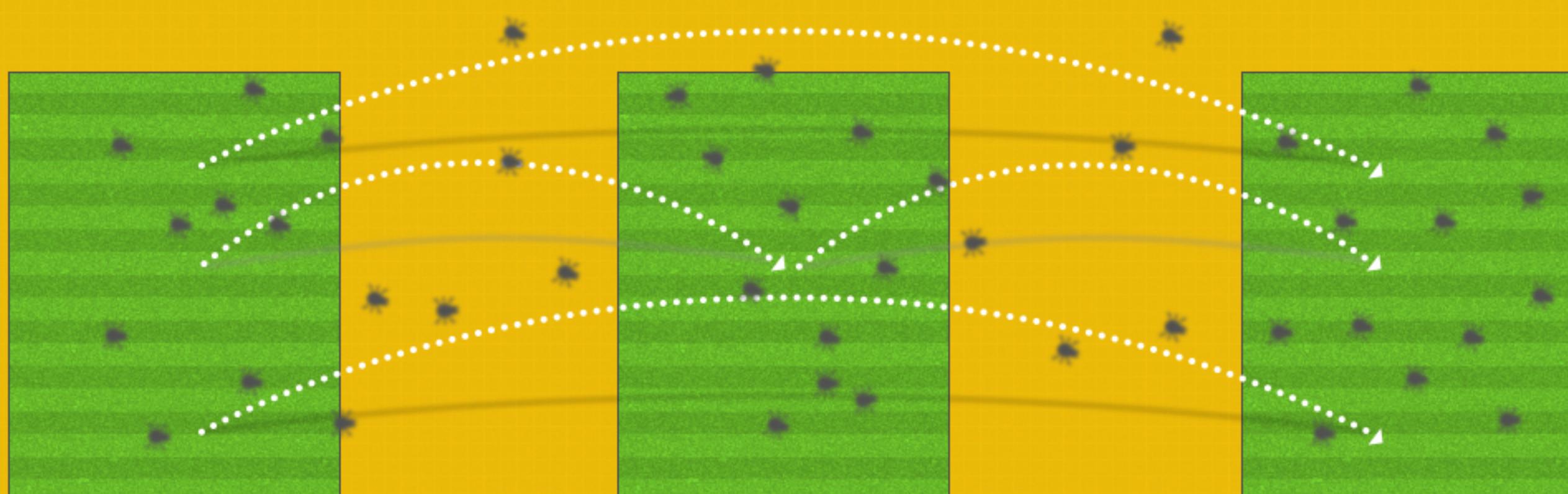
THIS IS THE TIMEFRAME TO:

1. Evaluate pollination success.
2. Evaluate plant, stalk and ear health.
3. Estimate yield potential.
4. Begin developing a harvest schedule to prioritize early maturing, stressed or high-risk fields for lodging to harvest first.

INSECT MANAGEMENT

CORN ROOTWORM FIELD MANAGEMENT

Insects leave "donor" fields in favor of less mature "receiver fields" to feed and lay eggs. Neutral fields will have a few insects coming in and a few insects leaving but are generally relatively balanced.



"DONOR" FIELDS

Have finished pollinating and beetle populations are migrating from these fields.

"NEUTRAL" FIELDS

Are pollinating at the same time as other fields within an area and thus have less risk of receiving mass movement of beetles.

"RECEIVER" FIELDS

Pollinate and/or mature later than surrounding fields and are attractive to beetles. Careful long-term management is needed in these fields because of the potential for increased egg laying from CRW that migrate to the field.



LATE SEASON (R2—R6)

DISEASE MANAGEMENT

DISTINGUISHING CORN EAR MOLDS

Pathogens that cause ear rot diseases survive on corn residue and are of greater concern in continuous corn. Though actual disease infection may occur as early as silking, corn ear molds first become visually apparent on developing corn ears during grain fill. Use the slider below to learn about some of the most common ear molds affecting corn.



Aspergillus



Diplodia



Fusarium



Gibberella



Penicillium



Trichoderma



Cladosporium

MOLD NAME	CONDITIONS	COLOR	APPEARANCE	MYCOTOXIN
Aspergillus	Damaged skills or kernels typically from insects or hail; common in dry years	Gray-green; light green	Powdery mold starting at tip of ear	Aflatoxin: toxic to livestock and humans
Diplodia	Most often in reduced tillage and continuous corn	White to Grey; severe infection can cause entire ear to appear brown	Usually begins at base of ear and develops toward the tip; grows between kernels; often pycnidia will form on husks and at the base of the kernels	Not known to produce mycotoxins
Fusarium	Infection points include kernel growth cracks and ear damage from insects; warm and dry weather favors disease development	White to pink	Individual kernels with fungal growth and/or kernels with starburst pattern	Fumonisin: toxic to livestock, particularly horses
Gibberella	Infection favored by cool, wet weather after silking	Often bright pink; varies from red to white	Usually begins at ear tips and progressed to base	Vomitoxin, zearalenone: harmful to livestock
Penicillium	Infects kernels damaged by frost, insects or hail	Blue green	Grows on and between kernels; powdery	Not known to produce mycotoxins
Trichoderma	Favored by insect or mechanical damage to the ear	Green	Grows on and between husks and kernels	Not known to produce mycotoxin
Cladosporium	Infects kernels damaged by frost, insects or hail	Gray to black or very dark green	Streaks scattered over ear; can appear powdery; able to rub color off kernel surface	No feeding toxicity