

# AGR 1404 Field Sampling and Diagnostics Corn

# Lesson Objectives

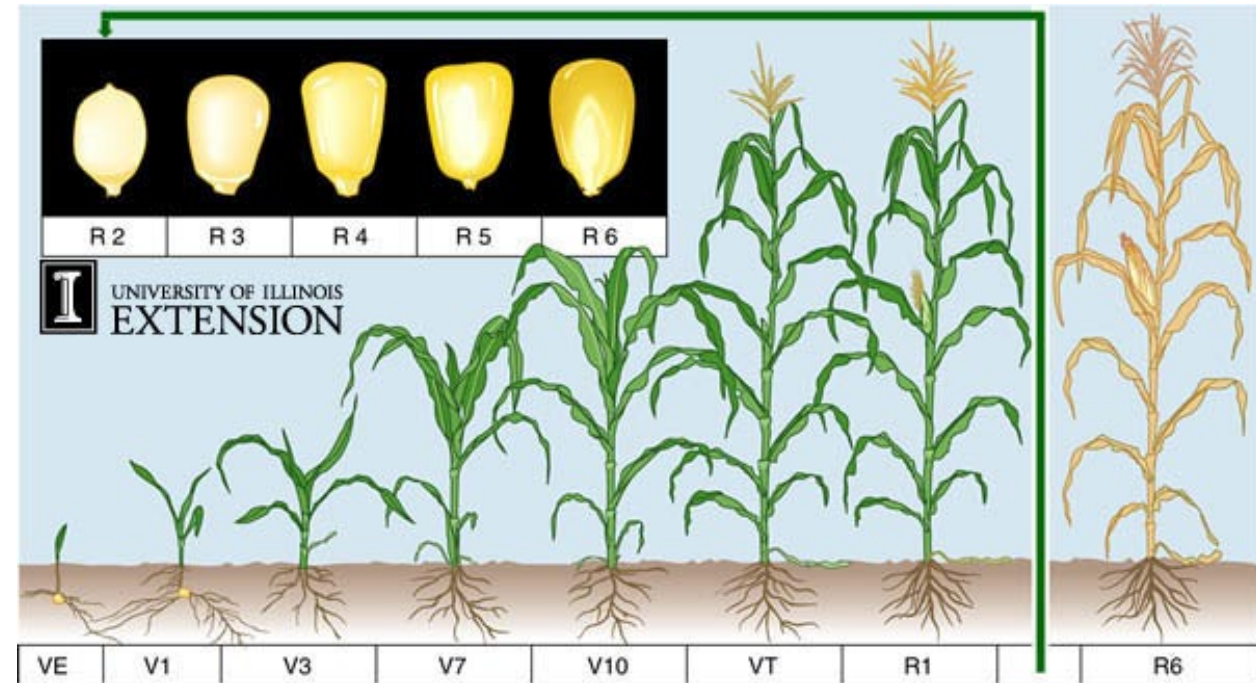
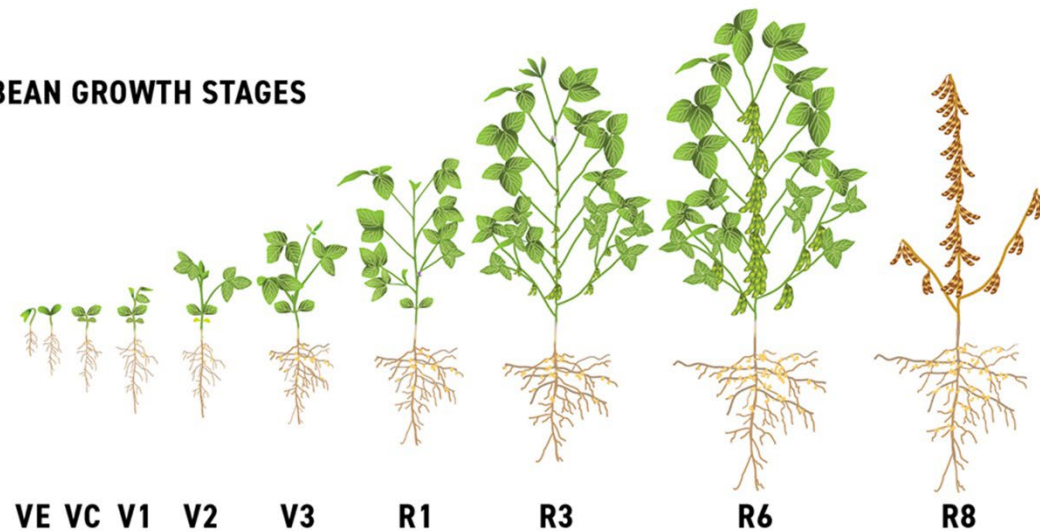
# Integrated Pest Management and Row Crop Agriculture

- IPM takes on more value as the crop value increases
  - Fruit and Vegetable crops vs Row Crops
- Fruit and Vegetable crops require more eyes per acre and typically a more immediate response
- Row crops are typically more improved; pest management as part of an annual plan but stop look and listen to people about problems on the rise
- Specialty crops are on the rise and require more pest management
  - Hops, Malting Barley etc.

# Field Scouting – Know Your Host Crop

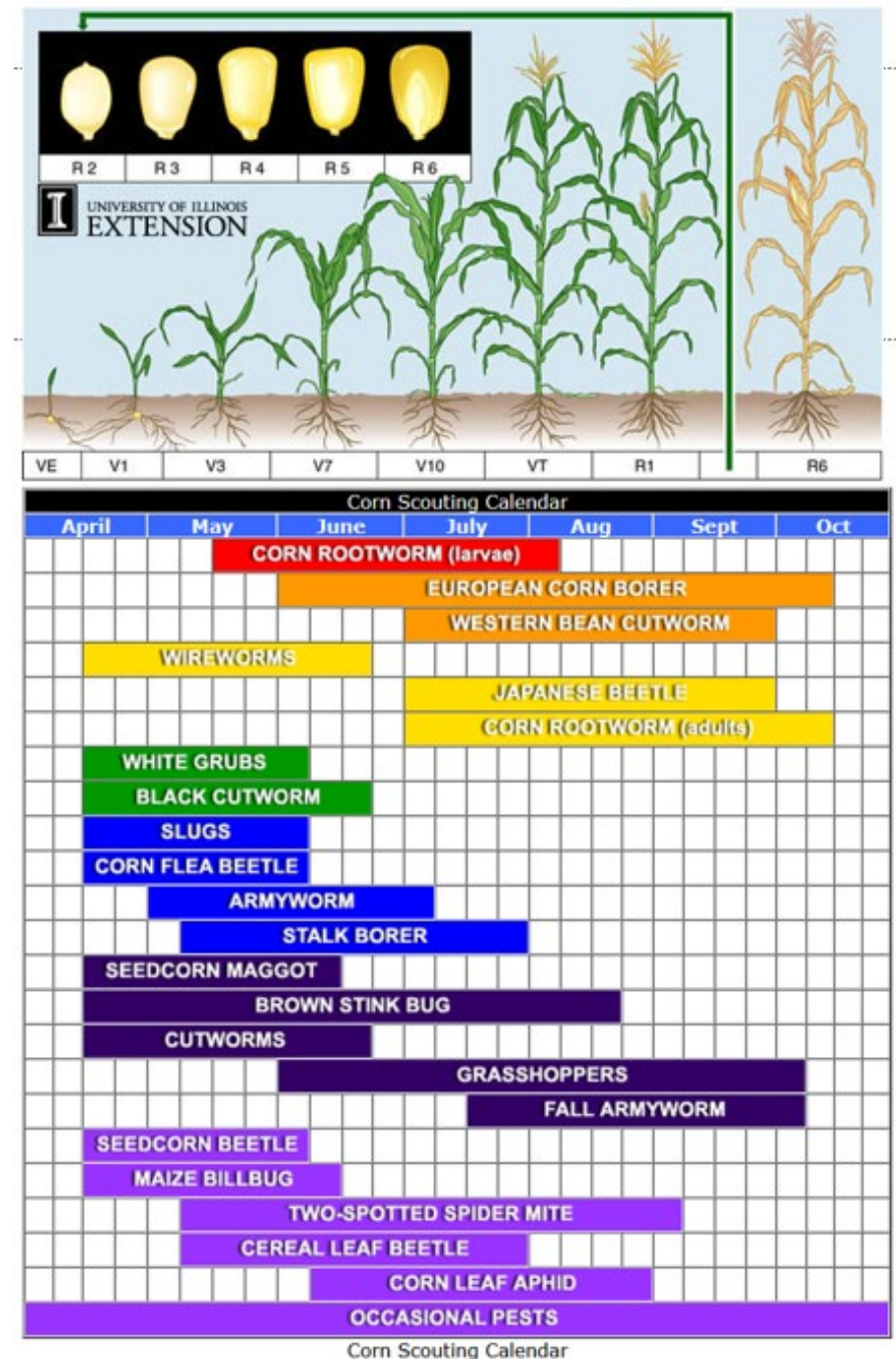
- Good bad or indifferent we have two main crops
- Corn and Soybean with a little bit of wheat for good measure

SOYBEAN GROWTH STAGES



# Corn Growth and Scouting

- In Ohio, controlling corn insects was revolutionized with *Bt* corn
  - European Corn Borer
- In Central Illinois controlling corn insects was revolutionized with *Bt* and YieldGard or Herculex corn
  - European Corn Borer
  - Corn Root Worm
- Ohio corn after Corn Root Worm can be a problem



<https://extension.entm.purdue.edu/fieldcropsipm/corn.php>

# Corn Disease Calendar

- Corn Disease Management was typically focused on Genetics
- In 1994--had Pioneer 3394 been a single seed company-it would have been the second largest seed company in the world
  - Its problem was Grey Leaf Spot

Scouting for Corn Diseases

Early Season Emergence to knee-high	Mid Season Knee-high to tasseling	Late Season Tasseling to maturity
Seedling Blights		
Anthracnose Leaf Blight, Bacterial Wilt and Bacterial Leaf Blight (Stewart's Wilt, Stewart's Disease), Goss's Wilt, Physoderma Brown Spot, Common Smut, High Plains Virus		
	Northern Leaf Blight, Southern Leaf Blight, Common Rust, Southern Rust, Crazy Top, Sorghum Downy Mildew, Anthracnose Top Dieback & Stalk Rot, Bacterial Stalk Rot, Pythium Stalk Rot, Maize Chlorotic Dwarf Virus, Maize Dwarf Mosaic Virus, Corn Lethal Necrosis	
		All Ear & Kernel Rots
		Gray Leaf Spot, Head Smut, Charcoal Rot, Diplodia Stalk Rot, Fusarium Stalk Rot, Gibberella Stalk Rot, Red Root Rot]

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**Table 3. Agronomic performance and reaction to Gray Leaf Spot of 16 commercial hybrids evaluated in on-farm strip tests at four locations in East Central Ohio, 1996.**

Brand/Hybrid	Yield Bu/A @ 15.5% Moisture	% Moisture	Harvest Population Plants/A	% Lodged	% Stalk Rot**	% Ear Leaf Affected
Porter 5408	149.9	23.8	24610	3	45	33.9
ICI 8342	142.9	24.4	26360	2	34	22.7
Pioneer 3352	138.6	24.8	26560	4	10	16.3
Northrup King N6800	137.0	26.5	24360	1	38	26.5
Northrup King N7070	136.9	23.7	25790	5	42	37.0
Dekalb DK634	133.9	24.9	27770	2	36	37.3
ICI 8541	133.2	22.6	25630	3	52	32.5
Doebler 66XP	131.9	24.8	26110	3	68	31.1
LG Seeds V2504	130.3	24.2	25155	2	26	31.5
Pioneer 3335	129.4	23.3	26910	5	54	50.5
Porter 5111	129.3	24.1	24220	8	48	25.5
LG Seeds V2524	129.2	27.4	25340	3	47	26.7
Doebler 75X-2	125.4	28.5	25590	4	55	24.8
Asgrow RX701	124.1	24.2	26180	3	38	33.4
Pioneer 3394	121.8	21.4	26950	4	60	57.2
Asgrow RX770	120.3	26.7	27110	2	39	34.0
LSD (P=0.05)	11.9	2.3	NS	NS	25	10.7

\*Stalk strength determined by "pinch" method.  
 \*\*Last assessment for Holmes, Knox and Coshocton County locations 9/25/96; for Wayne County location 9/11/96.