Texas A&M Agrilife Extension Cochran County | Morton, Texas | Kendra Bilbrey, CEA-AG
Phone: 806-266-5215 | Fax: 806-266-0032 | kendra.bilbrey@ag.tamu.edu

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CORN DEVELOPMENT AND KEY GROWTH STAGES

Brent Bean, Texas AgriLife Extension Agronomist

Vegetative Stage

Emergence

Coleoptile leaf (1st leaf) visible, this leaf will be shorter than later emerging leaves and has a rounded tip. Growing point of the plant should be 1 to 1.75 inches below the soil surface. Permanent (nodal) root system will begin developing at this point. If seed is planted too shallow the root system will have a difficult time becoming established.

2-Leaf

Collar of the 1st true leaf (not the coleoptile leaf) is visible. Plant is still relying
primarily on seed reserves for survival.

3-Leaf

Collar of third leaf visible, occurs approximately 10 to 14 days after emergence. Photosynthesis now very active and supporting the plant. May apply 2,4-D from emergence through the 5th leaf stage without drop nozzles. Begin checking roots for Western corn rootworm larvae (white). Watch corn that is next to wheat or grass for Banks grass mites infesting lower surface of leaves.

4-Leaf

Collar of 4th leaf visible.

5-Leaf

Collar of 5th leaf visible, may have lost the coleoptile leaf by this time. Plant is approximately 8 inches tall. Growing point is just below the ground surface. A hail or light freeze will cause little long term damage to the plant. However, flooding while the growing point is below ground can kill the plant, especially if temperatures are high. The first internode to elongate is about 13 mmh long and is located just below the node to which leaf 5 is connected. This is an important reference for crop growth staging. Tassel formation has been initiated.

6-Leaf

Collar of 6th leaf visible, occurs approximately 30 days after emergence. Growing point and tassel above soil surface making the plant more vulnerable to a hail or freeze. Permanent root system rather than the seminal roots is now the primary root system supporting the plant. Tillers may begin developing at this stage. Continue to check roots for Western corn rootworm larvae. Continue to check for small colonies of Banks grass mite.

7-Leaf

Collar of 7th leaf visible, plant beginning to grow rapidly.

8-Leaf

Collar of 8th leaf visible, occurs approximately 45 days after emergence may have lost lower two leaves. Don't sidedress after this point or root damage may occur. Check upper and lower surfaces of leaves for Southwestern and European corn borer eggs or small larvae. No longer advisable to apply insecticide for Western corn rootworm control.

9-Leaf

Collar of 9th leaf visible, ear shoots are visible in the leaf collar regions. May have up to 8 ear shoots. Tassel is rapidly developing. Corn borer feeding damage should be evident on leaves and in whorl of infested plants.

10-Leaf

Collar of 10th leaf visible, new leaf stage occurring every 3 to 4 days. Continue to check for Banks grass mite infestations on lower leaves.

11-Leaf

Collar of 11th leaf visible, may have lost lower three leaves. A few corn borers will have entered stalk by this time. No longer feasible to apply insecticides for corn borer control.

12-Leaf

Collar of 12th leaf visible, potential number of kernels on each ear and size of
ear being determined, this continues until about 1 week prior to silking. Number of kernel rows already determined. Top ear is still smaller than lower ear shoots. Brace roots just beginning to develop. Adequate moisture and nutrients are critical during this time.

13-17 Leaves

Leaf stages 13 to 17 will develop very rapidly. At some point the tip of the tassel will be visible. At which leaf stage this occurs will vary between hybrids. Silks will begin to grow as tassel is emerging. Brace roots are now growing. Early maturing hybrids progress from the 13-leaf stage through the 17-leaf stage faster than later maturing hybrids and have smaller ears. This can be compensated by higher seeding rate. Attempts should be made to have the soil profile full of water prior to tassel emergence.

Tassel

Tassel fully emerged, beginning of a 4 week period that is very critical. Plant is almost at full height. Corn is very vulnerable to hail since tassel is fully exposed. Silking will generally begin in 2 to 3 days. Stress occurring a few days prior to tasseling can cause ear development to slow resulting in a lag between pollen shed and silking. This can lead to barren ears. Begin to check for 2nd generation corn borer egg lay