Corn Objective Yield Procedures
Reference Sheet

Maturity Code 1 - No Ear Shoots

No ears or ear shoots are present.

Number of Ears per Acre		Average Ear Weight	
Field Counts	Model(s)	Field/Lab Measurements	Model(s)
Stalks	Model 1: Stalks Model 2: Stalks with Ears		5-Year Average Historical Average Weight per Ear

Maturity Code 2 - Pre-blister

Shoot has some silks showing. Little or no watery, clear liquid present in "spikelets."

Number of Ears per Acre		Average Ear Weight	
Field Counts	Model(s)	Field/Lab Measurements	Model(s)
Stalks Stalks with Ears Ears and Silked Ear Shoots Ears with Evidence of Kernel Formation	Model 1: Stalks Model 2: Stalks with Ears or Ear Shoots		5-Year Average Historical Average Weight per Ear

Maturity Code 3 - Blister

Most "spikelets" liquid. Most silks protruding from husks are beginning to turn color.

Number of Ears per Acre		Average Ear Weight	
Field Counts	Model(s)	Field/Lab Measurements	Model(s)
Stalks Stalks with Ears Ears and Silked Ear Shoots Ears with Evidence of Kernel Formation	Model 1: Stalks Model 2: Stalks with Ears or Ear Shoots	Length of Kernel Row Diameter of Ear	Model 1: Kernel Row Length Model 2: Ear Volume

Maturity Code 4 - Milk

Plant or shuck is green. Ears are erect. Little or no denting. Most kernels are full of milk-like substance, but kernels not fully grown. Silks protruding from husks have turned brown and dry.

Number of Ears per Acre		Average Ear Weight	
Field Counts	Model(s)	Field/Lab Measurements	Model(s)
Stalks Stalks with Ears Ears and Silked Ear Shoots Ears with Evidence of Kernel Formation	Model 1: Stalks Model 2: Stalks with Ears or Ear Shoots	Length of Kernel Row Diameter of Ear	Model 1: Kernel Row Length Model 2: Ear Volume

Maturity Code 5 - Dough

About one-half of kernels showing dent with some milk or dough-like substance in all kernels. Kernels full grown. Maturity line has not moved halfway to the cob on majority of kernels. Shucks taking on a light rust-colored appearance. Ears beginning to lean away from stalks.

Number of Ears per Acre		Average Ear Weight	
Field Counts	Model(s)	Field/Lab Measurements	Model(s)
Stalks Stalks with Ears Ears and Silked Ear Shoots Ears with Evidence of Kernel Formation	Actual Ears with Evidence of Kernel Formation	Length of Kernel Row Diameter of Ear Weight of Ears	Model 1: Kernel Row Length Model 2: Ear Volume

Maturity Code 6 - Dent

Ears are firm and solid. Kernels fully dented with no milk present in most kernels. Shucks are about dry but not beginning to open up. Kernels may be hard to scratch at surface, but still soft near the cob. Maturity line on the kernels has not reached the cob.

Number of Ears per Acre		Average Ear Weight	
Field Counts	Model(s)	Field/Lab Measurements	Model(s)
Stalks Stalks with Ears Ears and Silked Ear Shoots Ears with Evidence of Kernel Formation	Actual Ears with Evidence of Kernel Formation	Length of Kernel Row Diameter of Ear Weight of Ears	Model 1: Kernel Row Length Model 2: Ear Volume Model 3: Maturity 6 Ear Weights

Maturity Code 7 - Mature

Corn is about ready or ready for harvest. The maturity line on the kernels extends inward to the cob. No milk can be squeezed from the top of the kernels next to the cob when punctured with a thumbnail. Kernels shell off the cob fairly easily. When you pick a kernel from the cob, there may be a dark spot on the cob where the kernel was attached. Shucks are dry and are beginning to open up. No green foliage is present.

Number of Ears per Acre		Average Ear Weight	
Field Counts	Model(s)	Field/Lab Measurements	Model(s)
Stalks Stalks with Ears Ears and Silked Ear Shoots Ears with Evidence of Kernel Formation	Actual Ears with Evidence of Kernel Formation	Length of Kernel Row Diameter of Ear Weight of Ears	Actual Weight of Ears

Ear Model 1: Uses five years of historic data to estimate the relationship between final ears per sample and the historic stalk count from the same month.

Ear Model 2: Uses five years of historic data to estimate the relationship between final ears per sample and the ratio of stalks with ears to total stalk counts per sample.

Weight Model 1: Kernel row measurements, collected over a series of years, are utilized to forecast future sample grain weights.

Weight Model 2: Ear volume measures are calculated by combining kernel row length measures with cob diameter measurements. These are historically related to final grain

Weight Model 3: Harvested ears are laboratory weighed and adjusted to 15.5 percent moisture. These MC6 weights are related to final grain weights by means of regression.

This document is intended only as a quick reference guide. For full details, please reference "The Yield Forecasting Program at NASS" at
https://www.nass.usda.gov/Education_and_Outreach/Understanding_Statistics/Yield_Forecasting_Program.pdf