Feekes scale for cereal growth stages

SEEDLING GROWTH	1	One shoot, first leaf through coleoptile
TILLERING	2	Tillering begins; main shoot and one tiller
	3	Tillers formed; leaves often twisted In some varieties, plant may be prostrate in appearance
	4	Leaf sheaths lengthen; beginning pseudostem erection
	5	Leaf sheaths fully elongated to form strongly erect pseudostem
STEM EXTENSION	6	First node of stem visible at base of shoot; jointing
	7	Second node of stem formed; next-to-last leaf just visible
	8	Flag leaf visible but still rolled up
	9	Ligule of flag leaf just visible
	10	Flag leaf sheath completely grown out; booting
HEADING	10.1	First awns of head just visible
	10.2	1/4 of heading process complete
	10.3	1/2 of heading process complete
	10.4	3/4 of heading process complete
	10.5	All heads out of sheath
FLOWERING	10.5.1	Beginning of flowering
	10.5.2	Flowering complete to top of head
	10.5.3	Flowering complete at base of head
	10.5.4	Flowering complete; kernel watery ripe
RIPENING	11.1	Kernel milky ripe; milk stage
	11.2	Kernel mealy ripe; soft but dry consistency; soft dough stage
	11.3	Kernel hard; difficult to divide with thumbnail; hard dough stage
	11.4	Kernel harvest ready; straw dead

Winter Wheat

DEVELOPMENT AND GROWTH STAGING

A few notes on growth stages:

- ✓ Understanding the growth stages of cereals crops and how to identify them is key to successful cropping and pest management decisions
- ✓ There are several growth staging methods
- ✓ This presentation is based on the Feekes scale
- ✓ The Feekes scale is a popular tool used in the field
- ✓ The Feekes scale has eleven development stages with some stages having more detailed subdivisions

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