

# **Sorghum Life Cycle 101, How to Grow What Make Best Health Food Nutrition, 5-10 min Nature Crop Plant**

Stages 0-5 (vegetative growth) are crucial for the development of sorghum plants and include emergence, 3-leaf, 5-leaf, growing point differentiation, flag leaf visible, and boot. Understanding these stages is essential for proper crop management and achieving optimal yield and quality. The duration of each stage in the sorghum's life cycle varies depending on factors such as variety, environmental conditions, growing conditions, and the region.

## **Vegetative growth stage:**

- Stage 0: Germination and emergence occur when the first leaf (coleoptile leaf) breaks through the soil surface.
- Stage 1: The 3-leaf stage happens 10-20 days after emergence, with three fully expanded leaves and the collar of the third leaf visible.
- Stage 2: The 5-leaf stage takes place 20-25 days after emergence, characterized by five fully expanded leaves and visible collars.
- Stage 3: Growing point differentiation occurs typically 30-40 days after emergence, marking the cessation of new leaf development within the whorl and the definition of potential leaf number.
- Stage 4: The flag leaf visible stage is when the flag leaf, the last leaf, becomes visible in the whorl. The head continues to develop, and about 80% of the total leaf area has formed.
- Stage 5: The boot stage occurs 50-60 days after emergence and is characterized by the sorghum

panicle/head being enclosed within the flag leaf sheath, appearing as a bulge or swelling.

## **Reproductive growth stage:**

- Stage 6: The flowering stage is vital for sorghum reproduction, where the rapidly growing panicle/head emerges from the protective flag leaf sheath.
- Stage 7: During the soft dough stage, grain development becomes the plant's main priority, starting soon after flowering and pollination are complete.
- Stage 8: The hard dough stage signifies that the grain has reached 75% of its final dry weight, completed most of its nutrient uptake, and acquired its final color.
- Stage 9: Physiological maturity (maturity) is achieved when a dark spot/black layer forms on the bottom of the kernel, indicating the maximum dry weight of the grain.

Sorghum is a versatile crop with various applications, including as a source of human food, animal feed, beer production, biofuel, medical uses, and industrial applications. It is rich in carbohydrates, proteins, dietary fiber, essential vitamins, minerals, and antioxidants.