

GRAIN SORGHUM PLANT DEVELOPMENT STAGES

| | I | II | III | IV |
|-----------------------|---------------------|--------------|-----------------|--------------------------------------|
| | Emergence -> 5 Leaf | 6 -> 10 Leaf | 11 Leaf -> Boot | Half Bloom -> Physiological Maturity |
| Weeks After Emergence | 0 -> 3 weeks | 3 -> 6 weeks | 6 -> 8 Weeks | 9 -> 13 weeks |

POINTS OF INTEREST

To avoid overseeding or underseeding, planting rates should be based on seeds per acre and not pounds per acre. Seed size can affect planting rate. Planting rates vary from 25,000 plants per acre in areas of low rainfall to 110,000 in areas of higher rainfall and under irrigation.

Planting dates should be timed so germination and early growth occur during warm temperatures (soil temperatures - 70° to 80°) and so that flowering will occur before hot period. At later planting, yields don't differ significantly between short and full season varieties unless seeding rates are adjusted. Seeding rates should be increased to compensate for a reduction in leaf area as full season hybrids are planted later.

Poor relationships exist between seed size and field performance when many sorghum hybrids are compared. However, within a seedlot both small and large seeds have lower-than-average establishment capability.

Sorghum seed is smaller than corn or soybean. Therefore, early growth will usually be slower up to a 10-in height. Stage 1 is, therefore, optimum time for 2,4-D application to avoid lodging and yield reduction. If 2,4-D is delayed, the head may not fully emerge from boot so that flowering and pollination may be affected. Drought may also have same effect during Stage III.

The optimum yield potential is reached by beginning of Stage III. The number of leaves and the size of head has been determined. Later maturing varieties generally take longer to reach Stage III and have greater yield potential than early maturing varieties. Regardless of maturity, sorghum head flowers from tip downward over 4-9 day period.

Grain sorghum has a more fibrous root system than corn. Therefore, sorghum can intercept more water and nutrients under limiting conditions. To insure a satisfactory moisture supply for grain sorghum production, particular attention should be given to the soil moisture status at germination, early boot, and mid-bloom stages. The sorghum plant keeps growing until killed by