

GROWTH and DEVELOPMENT STAGES of the LENTIL PLANT

The following is a uniform system for the description of the developmental stages of lentil (*Lens culinaris*) that is universally applicable to all growing environments and divergent cultivars.

Vegetative growth stages are described by counting nodes on the main stem and continuing the count up the basal primary branch to include the highest fully developed leaf. Reproductive stages R1 and R2 are based on flowering, R3 to R6 on pod and seed development, and R7 and R8 on maturation.

Vegetative Growth Stages

Count the number of visible nodes on the main stem up to the node subtending the basal primary branch, and then continuing the node count up the basal primary branch to include the highest fully developed leaf. The basal primary branch usually develops between nodes 1 to 5.

- VE – seedling emergence, cotyledonary node visible
- V1 – the first simple leaf has unfolded at the first node
- V2 – the second simple leaf has unfolded at the second node
- V3 – the first bifoliate leaf has unfolded at the third node
- V4 – the second bifoliate leaf has unfolded at the fourth node
- V5 – the first multifoliate leaf has unfolded at the fifth node
- Vn – the nth multifoliate leaf has unfolded at the nth node

Reproductive Growth Stages

Flowering in lentil is indeterminate, occurring from axillary buds on the main stem and branches. It proceeds acropetally from lower to higher nodes.

- R1 – early bloom, one open flower at any node
- R2 – full bloom, flower open or has opened on nodes 10-13 of the basal primary branch
- R3 – early pod, pod on nodes 10-13 of the basal primary branch visible
- R4 – flat pod, pod on nodes 10-13 has reached its full length and is largely flat.
- R5 – early seed, seed in any single pod on nodes 10-13 fill the pod cavity
- R6 – full seed, seed on nodes 10-13 fill the pod cavities

Physiological Maturity

- R7 – the leaves start yellowing and 50% of the pods have turned yellow
- R8 – 90% of pods on the plant are golden-brown

[Descriptors adapted from the paper by W. Erskine, F. J. Muehlbauer and R. W. Short. 1990. Stages of Development in Lentil. *Exp. Agric.* 26:297-302]