

GROWTH and DEVELOPMENT STAGES of the PEA PLANT

The following is a uniform system for the description of the developmental stages of field pea (*Pisum sativum*) 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 R5 on pod and seed development, and R6 and R7 on maturation.

Germination and Emergence Stages

VE – the epicotyl emerges from the soil

VS – two small scale leaves (cataphylls) appear on the stem, do not count this node

Vegetative Growth Stages

Count the number of visible nodes above the cotyledonary node (VS) on the main stem, continuing the node count up the basal primary branch to include the highest fully developed pinnately compound leaf.

V1 – the true leaf (pair of leaflets) has unfolded at the first node above VS, no tendrils

V2 – the second true leaf (one or more pairs of leaflets) has unfolded at the second node, tendrils present

V3 – the third true leaf (one or more pairs of leaflets) has unfolded at the third node, tendrils present

V_n – the nth true leaf (one or more pairs of leaflets) has unfolded at the nth node, tendrils present

Reproductive Growth Stages

Field pea is indeterminate, and flower buds are initiated in leaf axils at the apical meristem approximately 20 days after they become visible.

R1 – flower bud present at one or more nodes

R2 – first open flower at one or more nodes

R3 – first flat pod present at one or more nodes

R4 – green seeds fill the pod cavity at one or more nodes

R5 – the leaves start yellowing and lower pods have turned yellow to golden brown

R6 – yellow or dry seeds fill the pod cavity at one or more nodes

R7 – most pods on the plant are yellow to golden-brown

[Descriptors adapted from the papers by J. M. Kraft and F. L. Pflieger. 2000. Compendium of Pea Diseases and Pests, 2nd Ed. APS Press, St. Paul, MN 67 pp. C. M. Knott. 1987. A Key for Stages of Development of the Pea (*Pisum sativum*). Annals of Applied Biology 111:233-245.]