

## **GROWTH and DEVELOPMENT STAGES of the CHICKPEA PLANT**

The following illustrate developmental stages of chickpea or garbanzo bean (*Cicer arietinum*), and should be applicable to all growing environments and divergent cultivars. Stems are branched, erect or spreading, sometimes shrubby and much branched; stems, foliage and immature pods may be olive, dark green or bluish green in color. No specific descriptors are currently published to distinguish the different growth stages of chickpea; therefore the following descriptors are proposed by the Legume ipmPIPE (H. F. Schwartz, facilitator) to facilitate communications between legume specialists, stakeholders and insurance industry representatives.

### **Vegetative Growth Stages**

Count the number of visible nodes on the main stem up to the node that includes the highest fully developed leaf. Leaves have 3 to 8 pairs of small leaflets that are oval in shape.

VE – seedling emergence

V1 – the first multifoliate leaf has unfolded from the stem

V2 – the second multifoliate leaf has unfolded from the stem

V3 – the third multifoliate leaf has unfolded from the stem

V4 – the fourth multifoliate leaf has unfolded from the stem

Vn – the nth multifoliate leaf has unfolded from the stem

### **Reproductive Growth Stages**

The self-pollinated plant produces 1 – 2 flowers at the tip of axillary branches. Pods may contain up to 3 seeds, and are oval in shape; and at maturity, the plants and pods turn yellow to tan.

R1 – early bloom, one open flower on the plant

R2 – full bloom, most flowers are open

R3 – early pod visible

R4 – flat pod, pod has reached its full size and is largely flat.

R5 – early seed, seed in any single pod fill the pod cavity

R6 – full seed, all seeds fill the pod cavity which is rounded

### **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

More information on chickpea and its characteristics are available from resources including: *Compendium of Chickpea and Lentil Diseases* – F. J. Muehlbauer & C. Weidong, APS Press release in 2010; *Description and Culture of Chickpea* – F. J. Muehlbauer et al., 1982, Wash. State Univ. Ext. Bull. 1112.