

**S1. Table. Description of the reproductive phenological stages of soybean seeds according to Ritchie et al. 1982 and those added in this work.**

Stages	Phenological stages according to Ritchie et al.		New phonological stages added in this work	
	Denomination	Description	Denomination	Description
R <sub>5,1</sub>	Seed filling	Seeds ~ 5mm long in the pod (perceptible to touch)		
R <sub>5,2</sub>	Seed filling	Seeds ~ 7mm long in the pod		
R <sub>5,3</sub>	Seed filling	Seeds ~ 8mm long in the pod		
R <sub>5,4</sub>	Seed filling	Seeds ~ 10mm long in the pod		
R <sub>5,5</sub>	Seed filling	Seeds ~ 11mm long in the pod		
R <sub>6</sub>	Full seed	Pod containing a green seed that fills the pod cavity at one of the four uppermost nodes on the main stem with a fully developed leaf		
R <sub>7</sub>	Begining maturity	one normal pod on the main stem that has reached its mature pod color		
R <sub>7,1</sub>			Early mature green	Up to 50% of yellowing leaves and pods, green seeds
R <sub>7,2</sub>			Physiological maturity	Between 51% and 75% yellow leaves and pods, green-yellowish seeds
R <sub>7,3</sub>			Early mature yellow	More than 75% yellow leaves and pods, yellow seeds
R <sub>8</sub>	Full maturity	95% of the pods have reached their mature pod color		Not used
R <sub>8,1</sub>			Mid mature yellow	Up to 50% defoliation, dark yellow pods, yellow seeds
R <sub>8,2</sub>			Late mature yellow	50-80% defoliation, brown-yellow pods, yellow seeds
R <sub>8,3</sub>			Late mature desiccating	More than 80% defoliation, brown pods and light brown seeds
R <sub>9</sub>	Harvest maturity	No leaves, dry brown pods and light brown seeds		

