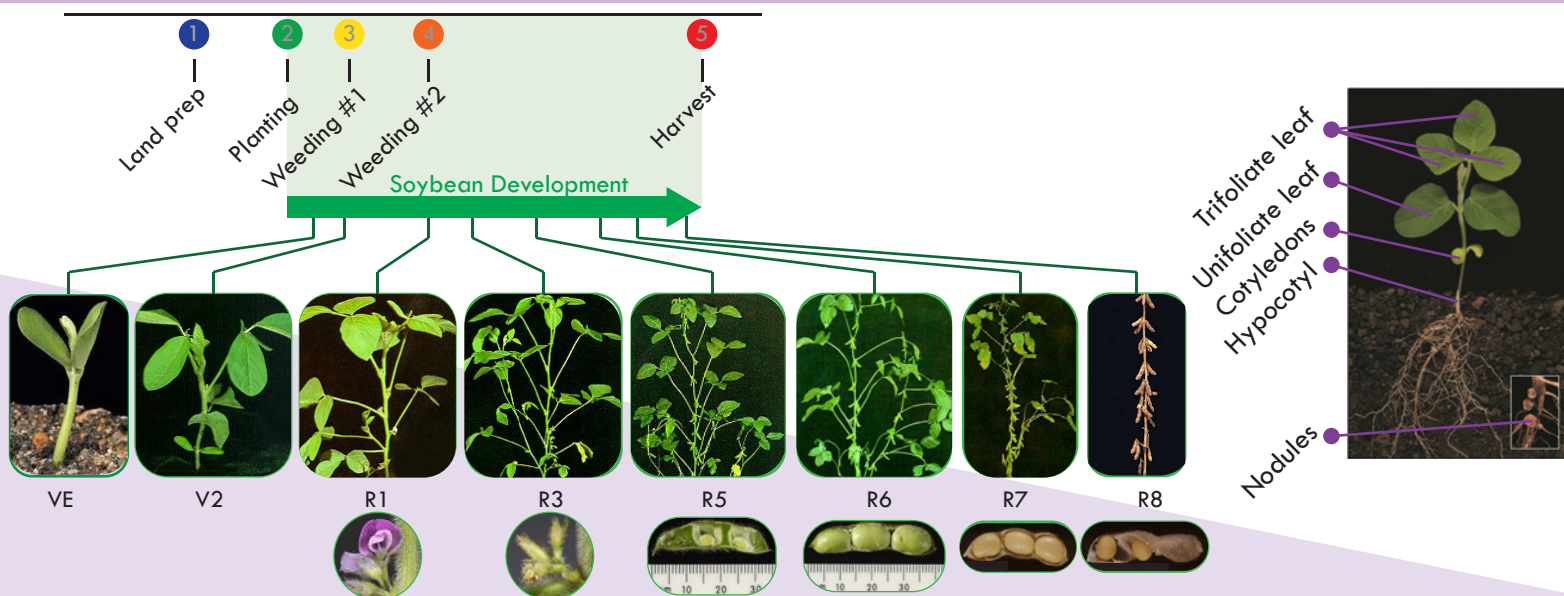


Soybean Production Primer for Farmer Use



VE= Vegetative Emergence
5 to 7 days after planting

- Watch for flooding
- Watch for weed competition
- Risk of high soil temperatures damaging seedlings

V2= Formation of the second trifoliate leaf
15 to 20 days after planting

- Nitrogen fixation begins
- Plants are receptive to P and K fertilizer application

R1= Beginning of flowering- first flower
30 to 40 days after planting

- Marks the beginning of reproductive development

R3= Beginning of pod formation
44 to 54 days after planting

R5= Beginning of seed formation
62 to 80 days after planting

R6= Green seed fills pod
77 to 95 days after planting

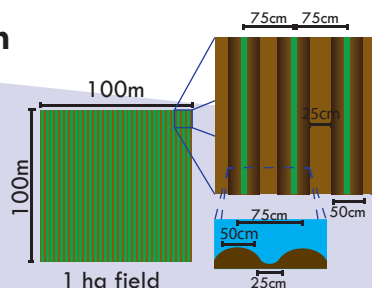
R7= Beginning of plant maturity
95 to 113 days after planting

- At least one pod is brown
- Leaves begin to fall
- Yields are less impacted by stress

R8= Full plant maturity
104 to 130 days after planting

- 95% of pods have reached their full color
- Few if any leaves should remain

1 Land Preparation



Spacing: Rows will be spaced 75cm apart, placed on the center of 50cm ridges.

- The furrow between ridges will be 25cm
- The height of the ridge will be 30cm

Things to consider when selecting a field:

- Avoid waterlogged soils that are very sandy or gravelly. Avoid steep slopes.
- Avoid soils that compact or crust easily, as these hard surfaces will prevent soybean germination.
- Clear vegetation and prepare soils to promote weed control and good germination.
- Rotate soybean with other crops between seasons to reduce disease.

3 Weeding



- Fields should be hand weeded approximately 2 weeks after planting.
- A second round of hand weeding is typically needed 5-6 weeks after planting.
- Once the soybean canopy has closed, soybean plants will usually out-compete weeds.

Soybean Production Primer for Farmer Use

2 Planting

Test Seed Germination



- 1) Select 100 seeds and place on moist paper towel.
- 2) Carefully roll towel and place in a partially closed plastic bag.
- 3) Store bag in a warm, humid location.
- 4) Check daily, and add more water if towel becomes dry.
- 5) After 4-5 days, seeds will germinate.
- 6) If less than 70 seeds germinate, source new seeds.

Inoculate Seeds



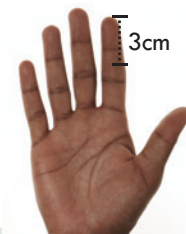
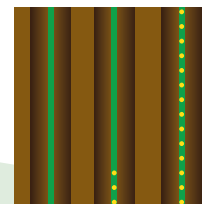
Note: Always reference inoculum label, as specific instructions will vary.

- 1) One hour before planting, add 400g of inoculum in 800ml water. One 400g sachet can inoculate 100kg of seed.
- 2) Mix well until there are no lumps.
- 3) Stir in seeds, until all seeds are coated.
- 4) Let coated seed dry on a tarp in a cool shaded area. Use seed within 24 hours of application.

*Store sealed inoculum in a dry, cool location

*Instructions based on BASF Hi-Stick inoculum

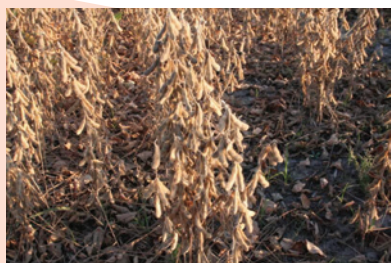
Seed Spacing and Depth



Planting density: 320,000 seeds/ha

- Planting should begin once the summer rains have fully established.
- Seeds should be spaced 5cm apart within a row.
- Soybeans should be planted between 2cm and 4cm deep.
- Seedlings should emerge 5-7 days after planting.

5 Harvest



- Soybeans mature between 90-150 days depending on the variety.
- The plants will be ready to harvest when all of the leaves fall to the ground, and 90-100% of the seed pods are brown and dry.
- Harvest should be conducted in the early morning on a dry day, once the rains have stopped.
- Be mindful to harvest before the seed pods are too brittle. Late harvest risks seed pods shattering and yield loss.
- Do not harvest soybean by hand-pulling as this will remove beneficial root material from the soil. Instead use a sickle, or another sharp implement to cut the plants at ground level.

Manual Threshing



- 1) Place harvested plants on a raised platform or tarp and dry for two days under the sun making sure to protect plants from animals or rain.
- 2) Test to see if seeds are dry enough by pinching grain between your fingernails. The grains should crack when ready, not bend or smash.
- 3) Thresh gently by beating grain with a stick on a clean surface.
- 4) Clean the grains. Winnow to remove chaff, dust and other rubbish in addition to shriveled, diseased, or broken soybean seeds.
- 5) Place grain in clean bags or other containers. If reusing bags be sure to first wash and disinfect bags by boiling in water for 5 minutes. Completely dry the container/bag.

Storage

- For the purposes of long-term storage (over 1 year), soybean seeds should have a moisture content of 10% or less to prevent microbial damage.
- Soybean should be stored in a cool, dry environment, separated from other chemicals or harmful products.
- Grain should be stored in a clean room on a raised platform or wooden pallet away from walls to limit pest or rodent access to grain.
- Regularly check for signs of infestation or rotten grain.



PICS (Purdue Improved Cowpea Storage) triple bags are a good option for grain storage. When all three bag layers are tied the seal become air-tight, and any insects in the grain die from lack of oxygen. It is not necessary to treat seed against storage pests when using PICS bags.



To assist with grain storage, soybeans can be treated with products such as Actellic Super to control for storage pests.