



### Post Harvest and Processing

Soybean grains must be kept cool and dry and free of foreign debris. The soybeans moisture fluctuates readily, with rapid gains and losses of moisture content.

The soybean grains are roasted or steamed to destroy the antinutritional factors. Raw soybeans should never be fed to poultry.



### Major Producers

Top production of soybean is mainly reported in the United States, Brazil, and Argentina, with India ranking fourth so far.

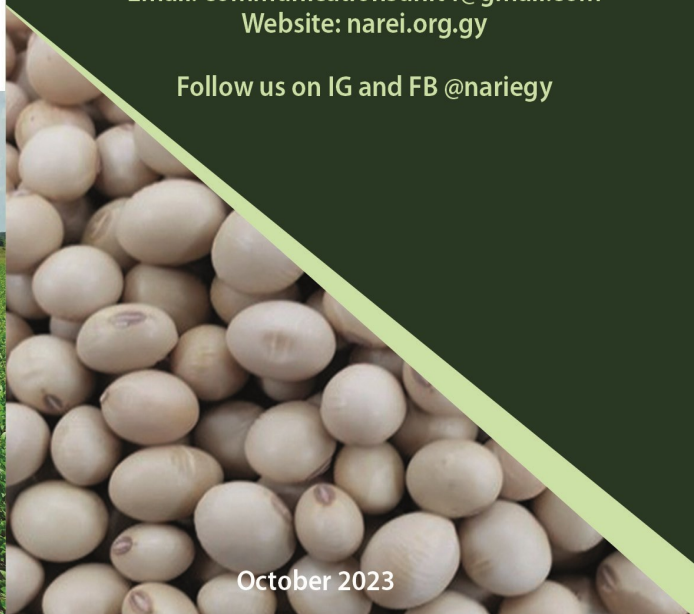
The best three countries together account for 80% of total production and they dominate world exports. United States of America, Brazil, Argentina, China, India, Paraguay, Canada, Ukraine, Russia, and Bolivia are among the top 10 soybean producers globally.

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# GROWING SOYBEAN IN GUYANA





## Description of Soyabean

Soybean (*Glycine max* (L.) belongs to the family Fabaceae. The soybean is economically the most important bean in the world, providing vegetable protein for millions of people and ingredients for hundreds of chemical products. Soybean is a nutritious addition to human and animal feed.

## Varieties

Soybean varieties differ in growth type.

- Determinate varieties essentially complete their vegetative growth prior to flowering. The main stem ends in a large terminal pod cluster.
- Indeterminate varieties continue to increase in height for several weeks after they begin to flower. Height frequently doubles after the first flowers appear.

## Fertilizer Rate

The soybean plant relies on soil nitrogen for growth until nodulation begins. It is recommended to apply 112kg/ha of Muriate of Potash and 53kg/ha of compound fertilizer NPK 15:15:15.

## Soil Requirement

Soybean farming requires well-drained soil with pH ranging from 6.0 to 7.5.

## Water Requirement

Water consumption is minimal during the germination and seedling phases, increases at full bloom, and then decreases as the plant matures. When pod fill commences at the conclusion of the reproductive period, appropriate soil water availability becomes crucial.

## Land Preparation

The following land preparation practices are recommended for optimum production:

- Clear the land of all vegetation
- Deep plough
- Add limestone, if needed
- Add cured (well-rotted) manure to improve soil structure and fertility, if needed
- Rotavate
- Construct ridge and furrow

## How to Propagate

Soybean seeds can be sown manually or with the use of a planter. Plant 1 to 2 seeds in each hole at a spacing of 60cm between rows (inter-row) and 15cm between plants (intra-row). The plant population is approximately 111,000 plants per hectare. Do not sow seeds more than 2-5cm deep. Deeper planting may result in loss of vigour or failure of seedlings to emerge

## Insect Management

Semi-looper caterpillar is the most common insect affecting soybean during the flowering and seed-fill period. They eat the leaves and sometimes the pods.



## Disease Management

Frog Eye Leaf Spot (*Cercospora sojina*) and Rust (*Phakopsora pachyrhizi*) are the two most common diseases affecting the soybean crop.



## Harvesting and Storage

Soybeans mature about 3-4 months after planting and must be harvested promptly to avoid yield loss. For non-shattering types, harvest when about 85% of the pods have turned brown; for shattering varieties, harvest when about 80% of the pods have turned brown. Allow them to dry in the open for 2 weeks before threshing by stacking them loosely on a tarpaulin. The moisture content of the grain at harvest is around 14%. Dry to 13% moisture for 6-12 months of storage, and to 10% or less for prolonged storage. When a soybean seed cannot be dented with the teeth or fingernails, it is adequately dry.

## Climatic Requirement

Soybean grows well in warm and moist climate. A temperature of 26°C to 30°C appears to be the optimum for most of the varieties. Soil temperatures of 15.5°C or above favor rapid germination and vigorous seedling growth.

## Weed Control

Herbicides are safe and effective in reducing weeds in soybeans when applied correctly. However, the herbicide of choice is determined by the prevailing weed species and the herbicide's availability.

