

Soya Bean

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Verneular name -

Hindi - Bhatwar, ranghusthi
Beng - Garj Kalab
Eng - Soya Bean

Origine & Distribution

It is cultivated in MP, UP, Maharashtra, Gujarat, H.P., Punjab & Sikkim. Soya bean is a native to eastern Asia or China. The important soya bean producing countries of world are USA, China, Brazil, Mexico, Russia, India.

Plant description

The plant of soya bean, annual, ~~erect plant~~ ^{herbaceous} erect plant up to 1-2 m in height.

Root nodules present & inhabited by Rhizobium japonicum bacteria.

III/ Soya bean & soya originate from north-east china.

IV/ ~~seed~~ Soya bean is grown for edible seeds.

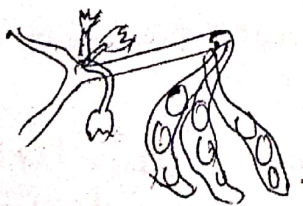
V/ The leaves are opposite, simple. While all other leaves are trifoliate & alternate.

VI/ Typical papilionaceous flowers are borne in axillary & terminal racemes, in ~~a cluster~~ a clusters of 8-10. (Rust for)

VII/ Small white & purple flowers & curved seed pods.

VIII/ seeds are cause a variety of colour including yellow, green, brown, black.

IX/ seed seeds are spherical, with a linear or oval hilum.



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- Plant description
- Systematic Position
- Cultivation
- Nutritional value
- Uses.

Cultivation

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- i/ Soya bean grows well in warm & humid climate.
- ii/ It grows in well drained ^{sandy} loam soil having good organic matter.
- iii/ The crop requires about 60-65 cm annual rain.
- iv/ It falls at flowering & just before flowering.
- v/ Well ploughed & planked seed-beds, with adequate amount of water.
- vi/ The soyabean is cultivated in two seasons. Kharif & Spring.
(June to 1st week of July). While in Spring sowing is done between 15th of February to 15th of March.
- vii/ Before sowing seeds are treated with rhizobium culture.
- viii/ Seed is sown in field after drilling.
- ix/ 45-60 cm x 2.5 cm spacing is good for Kharif crop & 30-45 x 2.5 cm during Spring season.
(2-3 cm in heavy soil & 3-4 cm light soil)
- x/ Soya bean grown for grain purpose needs about 20-30 kg seed/hectare. But for fodder crop needs about 70-75 kg/ha during Kharif season & 100-120 kg/ha during Spring.
- xi/ Soya bean gives a positive response in Nitrogen fixed soil (crops supplied with 10-15% of total nitrogen requirement).
- xii/ ^{50 kg} Nitrogen, ^{100 kg} P₂O₅ & ^{20 kg} Sulphur.
- xiii/ Kharif crop irrigation is not needed and it is grown rainfed.
- xiv/ Crop matures in about 90-140 days. Harvesting & threshing is manually done.
- xv/ Seeds are dried and stored for future use.

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- vii) Residual materials after protein extraction is used to manufacture phenolic type plastics
- viii) Soya bean is also grown as forage & green manure crops
- ix) Soya oil is extracted from seeds - which is manufacture in refine.
- x) Soya oil is used as best moisturizers.
- xi) Soybeans contain Vitamin-B, that can help to renew dead skin ~~cells~~ cells
- xii) Gives strength to nails.
- xiii) Soybeans for ~~best~~ benefits for hair
- xiiii) Source of Phytic acid. This is used as antioxidant. This can combat many disease like cancer, diabetes, inflammation, tumor etc.
- xv) Soybean is rich in iron & Zinc ~~helps~~ It helps in expanding capillaries, ~~soybean~~ red blood cells & stimulate blood supply to the ear. This can prevent hearing loss.
- xvi) ability to improve our blood lipid profile. Soy milk is high in unsaturated fat with zero cholesterol.
- xvii) Promotes weight loss.
- xviii) Prevents Prostate Cancer. Soy is a rich source of phytoestrogen. This is a unique plant ~~pt~~ hormone that prevents testosterone production in men.
- xix) Prevents Breast Cancer.
- xx) Enhances Immune Function.
- xxi) Improves Energy.
- xxii) Reduced Blood Fat.
- xxiii) Low down High blood Pressure.
- xxiv) Prevent type 2 diabetes.

Improved Varieties —

Several improved varieties have been evolved through breeding. Such as —

Ankur, Shilajee, PK-262, Brass, Punjab-1 etc.

Nutritional Value — (Per 100 gm)

Moisture	—	8.1 gm.
Protein	—	43.2 gm.
Fat	—	19.5 gm.
Minerals	—	4.5 gm.
Fibres	—	3.7 gm.
Carbohydrates	—	20.9 gm.
Energy	—	432 Kcal.
Mg, P, Riboflavin,		
Cu, Mn, Zn. etc	—	—

oil & Protein

Systematic Position —

Kingdom — Plantae.

Division — Angiosperms

Class — Dicotyledons

Order — Leguminales

Family — Papilionaceae

Botanical name — Glycine max.

Uses

- i / used as Vegetable.
- ii / Seed flour is used to prepare breakfast items, ice-creams, chocolate bars.
- iii / Soya milk used in food industry.
- iv / wheat flour with soya bean flour used to make good quality of nutritious food.
- v / Soya bean lecithins are used in cooking, paints, varnishes & enamel.
- vi / Also used in the manufacture of plywood glue.