

General Information

Soybean (*Glycine max*) is considered initially from China

Top Soybean-Producing Nations



131 mio ha
globally in 2017

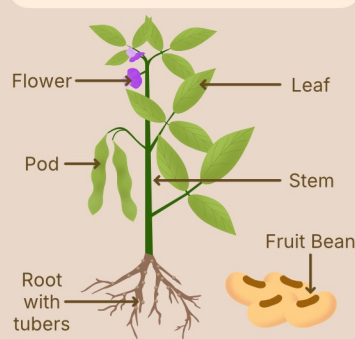
80%
were farmed by large-scale producers

Global Production
365 mio ton
in 2021

Global Demand
364 mio ton
in 2021

Source: Our World in Data, 2023 | MacroMicro, n.d.

SOYBEAN PLANT ANATOMY



Good Agriculture Practices

Soybeans thrive in dry and swampy areas, preferring flat to undulating terrain with monthly precipitation of 100 mm to 400 mm, ideally below 600 m in elevation.



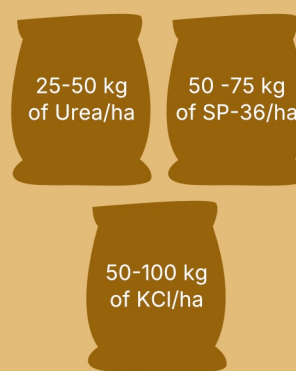
The population ranges from 350,000 to 500,000 plants/ha



Seed is the most used planting material.



Fertilizer dosage:



Common pest & disease (P&D):

Aphis glycines
Whitefly (*Bermisia tabaci*)
Leaf beetle (*Phaedonia inclusa*)
Gram pod borer (*Herilicorva spp.*)
Fusarium
Soybean cyst nematode



Common weeds:

Common cocklebur (*Xanthium pensylvanicum*)
Giant foxtail (*Setaria faberii*)
Lamb squatters (*Chenopodium album*)
Amaranthus spinosus

P&D and weeds are controlled by pesticides, herbicides, and biological control methods (natural enemies).

Soybean can be harvested 70 to 90 days after planting.

Potential maximum yield: up to 6.7 tonnes of dry beans/ha



Average global yield:

1.1 – 2.8 tonnes of dry beans/ha



Current Issues

The European Union Deforestation-Free Regulation (EUDR) mandates that all products made from soybeans entering or produced within the EU must be verifiably free of deforestation and degradation, effective December 31, 2024*

*The European Commission has proposed a one-year delay to the implementation of the EUDR, but the decision is still under review.

The expansion of soybean plantations often involves converting forests into agricultural land, leading to biodiversity loss and ecosystem disruption.



Rising temperatures, erratic rainfall patterns, and increased pests and diseases due to climate change impact soybean production systems.



The increasing demand for sustainable soybeans highlights the necessity of traceability in soybean products.

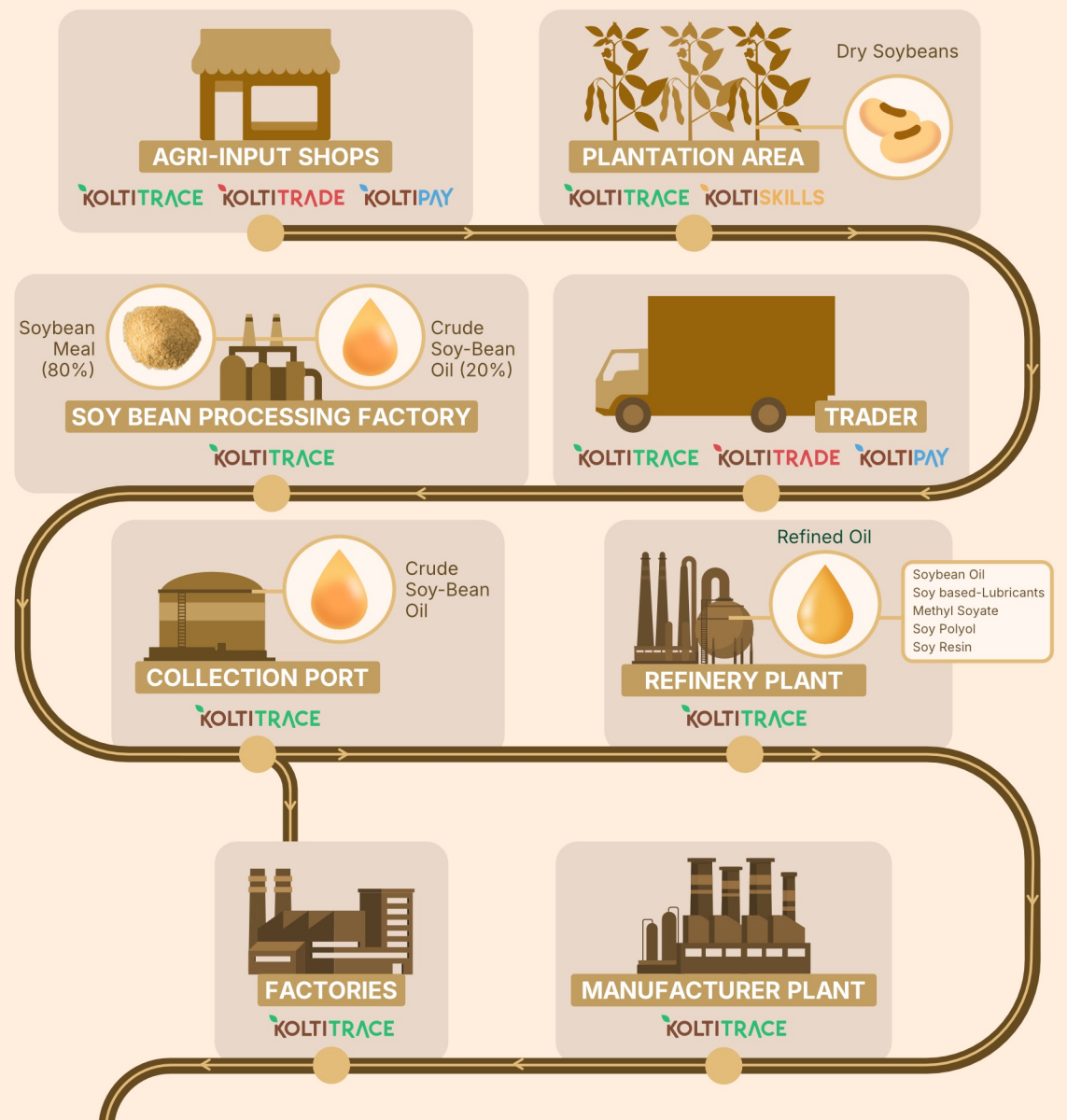


Soybeans significantly contribute to greenhouse gas emissions in the global food system, releasing 4.25 kg CO₂e per kilogram of refined oil—more than other vegetable oils.

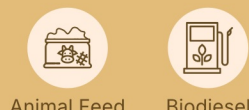


Source: University of Nottingham, 2022

Supply Chain



Animal feed, human food, biodiesel, lubricants, cosmetics, solvents, furniture, exterior panels



Soybeans are harvested as beans in the field and processed in mills into Soybean Meal (80%) and Crude Soybean Oil (20%). The meal serves as a raw material for human food and animal feed, while the oil is further refined to produce various derivative products.

Certification

Soybean certification is vital for sustainable soya production, with options like RTRS, CRS, ProTerra, RA, Organic, Fair Trade, and ISCC.

