

WHAT AM I?

A LIFECYCLE OF A SOYBEAN

PLANTING

Most soybeans are planted in rows about 7 to 30 inches apart in April - June. Seeds are planted 1 to 1 1/2 inches apart and 1 to 2 inches deep.

Fertilizers are used to provide additional nutrients to the seeds and the soil. Herbicides and pesticides are also used to control weeds and harmful bugs that could destroy the tender seedlings. Farmers use fertilizer, herbicides, and pesticides sparingly due to the expense and risk that excess application of these chemicals poses to the environment.



CULTIVATION

Soybean sprouts need fertile soil and plenty of rain and sun. The American Heartland provides ideal conditions for soybean cultivation. The United States produces nearly half of the world's soybeans. Most of the soybeans are grown in Iowa, Illinois, Indiana, Minnesota, Missouri, Nebraska, and Ohio. Other countries in South America, Asia, and Europe also produce soybeans.

MATURATION

It takes about 75 to 80 days for the soybeans to fully mature. At maturity, the soybean plant may reach a height of 3 feet or more. Flowers start to appear 6 to 8 weeks after planting and develop for two weeks before producing pods. These flowers can be pink, purple, or white.

Beans take 30 to 40 days to develop and mature as the leaves turn yellow and drop to the ground. The beans are found inside fuzzy pods that grow in clusters of 3 to 5. Each pod contains 2 or 3 beans.



HARVESTING

In the Midwest, soybeans are generally ready to harvest in September or October. When the seeds are mature, the upright vine and foliage begin to shrivel and the leaves fall away. Harvest must be completed before the pods shatter and "spill the beans". All harvesting is done by machine. Farmers use a combine that cuts the stalk, threshes the plant residue, and separates and cleans the beans in one operation.

HARVESTING

After harvesting, farmers either sell their crop directly to a commercial grain elevator or store them in their own bins until they are ready to sell. Once sold, they are transported to a processing plant or they are exported to another country.



PROCESSING

In processing, soybeans are cleaned, cracked, dehulled, and rolled into flakes. Rolling allows the beans' oil to be extracted. Soybean oil is refined and then used in margarine, salad dressing, and vegetable oils for cooking. It also has numerous industrial uses in products such as biodiesel fuel, ink, paint, medicine, plastic, wax, and glue.

Lecithin, extracted from soybean oil, is used in pharmaceuticals and as an emulsifier in foods. For example, it is used in candy bars to keep the chocolate and cocoa butter from separating.

The dry portion of the bean is processed into soy flours, fiber, bran, and grits used in baking, and to produce animal feed.

