

WHAT AM I?

A FEW AMAZING SOYBEAN FACTS

PLANTING

Most soybeans are planted in May or June, in rows that are 7 to 30 inches apart. Seeds are planted 1 to 1-1/2 inches apart and 1 to 2 inches deep. Fertilizers are used to provide additional nutrients to those of the soil. Herbicides and pesticides are also used to control weeds and bugs that could harm the tender seedlings. Farmers use fertilizer, herbicides and pesticides sparingly due to their expense and the risk excess application of these chemicals pose to the environment.

CULTIVATION

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

MATURATION

It takes about 75 to 80 days for soybeans to fully mature. At maturity the soybean plant may reach a height of three feet or more. Flowers appear six to eight 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 plant's leaves turn yellow and drop to the ground. The beans are found in hairy pods that grow in clusters of three to five. Each pod contains two or three 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.

FROM THE FARM TO THE MARKET

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

PROCESSING AND PRODUCTS

Soybeans are processed through several steps. First the hulls of the beans are removed. The hulls are used as additives for breads, cereals, snacks and livestock feed. The dehulled beans are then flattened into flakes, which makes it easier to remove their oil. The flakes can be used for livestock feed or various other commercial uses.

The crude soybean oil is extracted by immersing the flakes in a solvent bath. The crude oil then goes through a "degumming" process to separate crude lecithin from the oil. The lecithin is used in baked goods, dairy products and instant foods. The oil is used in cooking oil, margarine and shortening.

After the oil has been removed from the flakes, the flakes are processed into soy flour, soy concentrates and soy isolates. Soy flour is high in protein and improves the shelf life of baked goods. Soy concentrates are found in protein drinks, soups and gravies. Soy isolates are found in cheese, milk and nondairy frozen desserts.