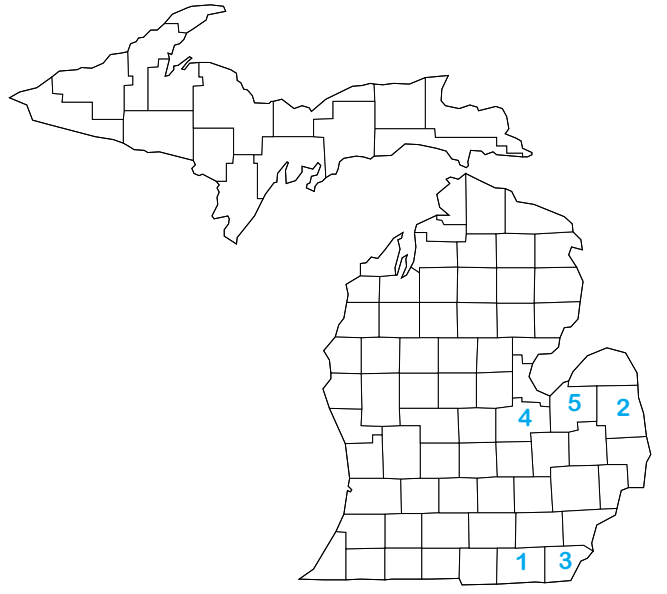
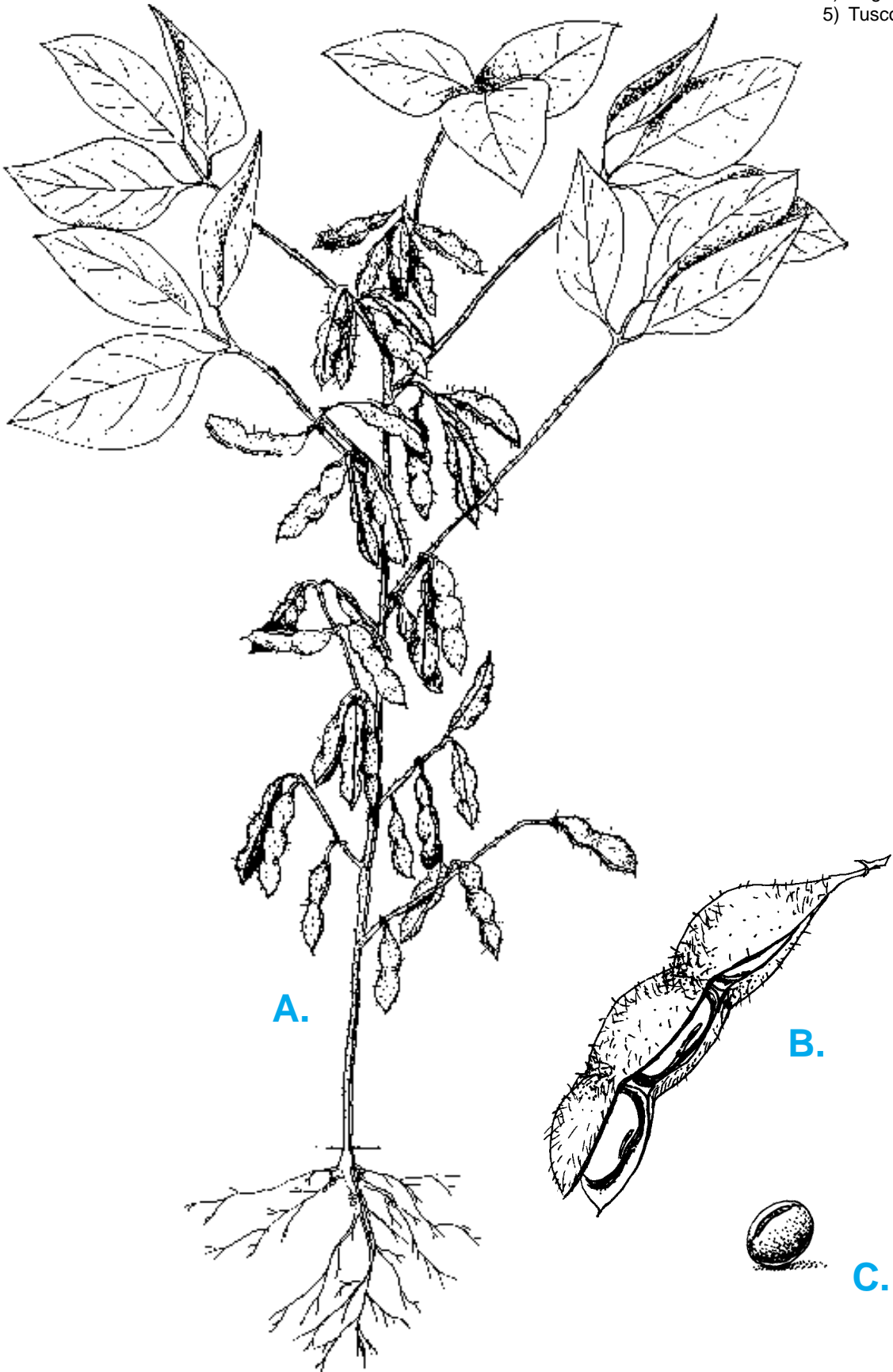


SOYBEANS

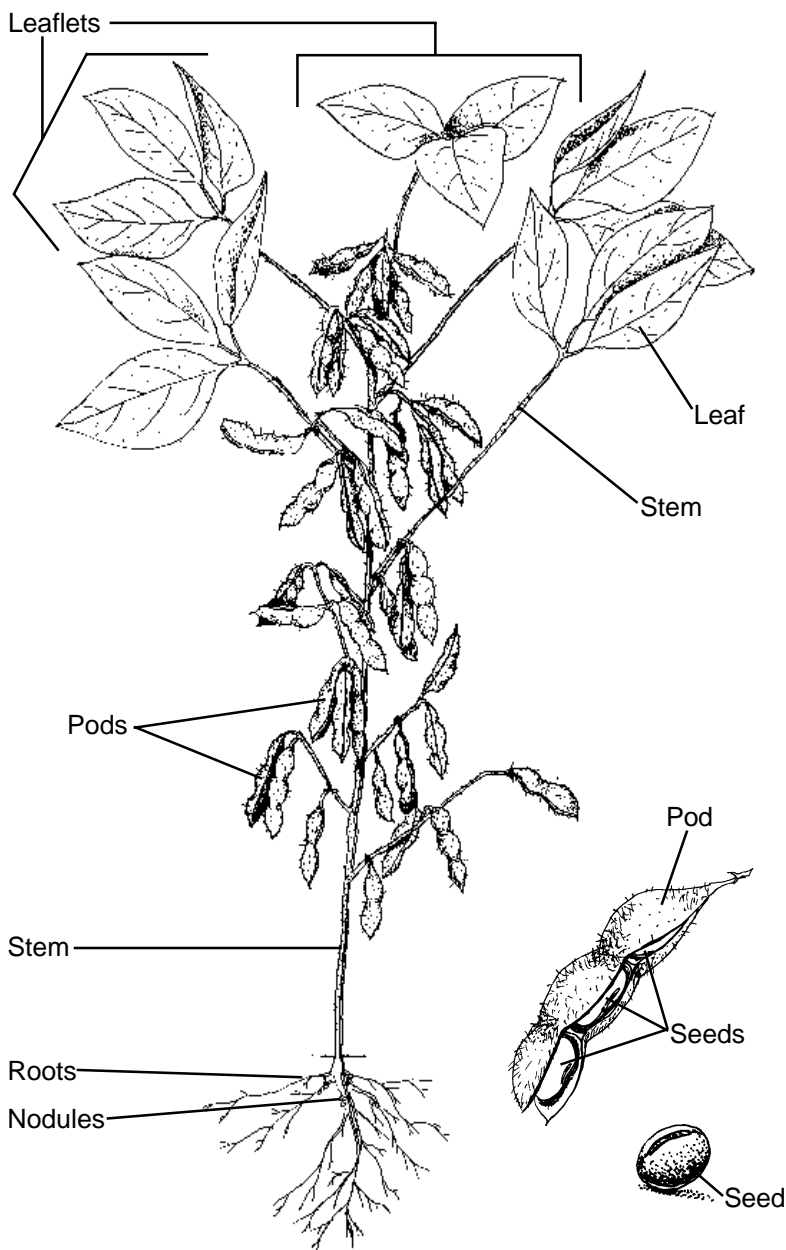


**Top 5 MI Counties
Producing Soybeans (2000)**

- 1) Lenawee
- 2) Sanilac
- 3) Monroe
- 4) Saginaw
- 5) Tuscola



SOYBEANS



ON THE FRONT

A. Soybean Plant

The soybean plant is called a legume because it produces a bivalve pod or fruit. Members of the legume family collect nitrogen from the air and release it back into the soil. This is important for growing healthy crops and maintaining soil quality.

B. Soybean Pod (Legume)

Soybeans grow in pods similar to peas. During the summer, the soybean plant flowers and produces 20 to 80 pods. Soybean pods range in color from very light yellow to shades of gray, brown and black at maturity.

C. Soybean Seed

Two to four pea-sized beans grow in each soybean pod. The seeds may be yellow, green, brown, black or speckled, but only the yellow seeds are commercially grown in the United States. The commercial seed averages from 2,500 to 3,500 seeds per pound.

Soybeans

More soybeans are grown in the United States (50 percent) than anywhere else in the world. Michigan farmers planted 2.1 million acres of soybeans in 2000, up 150,000 acres from the previous year. Soybeans were used primarily to feed livestock (hay forage) until the early 1900s, when scientist George Washington Carver discovered that soybeans provided valuable protein and oil.

The soybean provides many nutrients to both people and animals. It is especially high in protein (35 to 44 percent). Many countries use soybeans as their main source of protein instead of meat, eggs or cheese. Soybeans are the #1 vegetable oil crop in the world.

Planting

Farmers in Michigan plant soybeans primarily in May. Seed germinates when the soil temperature is about 50°F to 55°F. Growth is best with summer temperatures in the 70s. Because it is a legume, the soybean plant is a valuable tool in crop rotation. This means farmers can plant other crops in the space where the soybeans have been planted the year before and the nitrogen left by the soybeans feeds the next crop.

As the soybean plant grows, it branches out in all directions and produces 18 to 24 leaves. The bushy plant grows from 24 to 45 inches high. The stems, leaves and pods are covered with short, fine hairs. Small white or purple flowers grow where the leaf joins the stem. Soybean varieties are day length sensitive. Flowering is promoted by decreasing day length. Varieties change every 90 to 120 miles north to south.

Harvest

In Michigan, if the weather cooperates, soybeans are harvested from mid-September to mid-October. When the seeds are mature, the upright vine and foliage turn yellow and the leaves fall away. Harvest must be completed before the pods shatter and burst open. All harvesting is done by combine.

Processing

Soybean oil is a popular vegetable oil in the United States. When crushed and pressed, soybeans produce an oil that is used in margarine, cooking oils, salad dressings, mayonnaise and many prepared foods. Soybean oil contains no cholesterol and is low in saturated fat, thus it is popular with health-conscious people.

Soybean oil is also used to make paints, varnishes, soaps, cosmetics and plastics. Soybean oil is even used to make ink for printing newspapers and magazines. In fact, this card is printed with soy ink!

After soybean oil is removed in processing, the remaining flakes are processed into food products or protein meal for animal feed. Soybean meal is the most important protein source for livestock and poultry. Soybeans are used for bean sprouts, tofu, soy sauce and other whole bean food products traditional to the Orient.

Did you know . . .

- The soybean is often called the "miracle crop." It is the world's foremost provider of protein and oil.
- Soybeans are one of the oldest cultivated crops with first records of the plant in China at 2838 B.C.
- First soybeans were brought to the United States from China in 1804. United States farmers first grew soybeans in 1829. In 1904, at Tuskegee Institute, George Washington Carver began studying the soybean.
- Major United States soybean export customers include Japan (largest), European community, Mexico, Taiwan and South Korea.
- Disease loss is a major problem for soybean growers. The soybean cyst nematode (a microscopic animal, actually a worm but considered a disease, which forms on the plant roots and deprives it of nutrients) is the #1 problem in Michigan and 27 other states.
- Non-Food Uses: More and more researchers are developing new uses for soybeans as a "value-added" effort to help producers, cooperatives and industry expand the market use and enhance the economic climate for soybeans. Major non-food uses include soy ink, (bio) diesel, building materials like Environ biocomposite, dust suppressants and solvents and adhesives.

