Agventures

Explorations in Agriculture

HOOP IT UP FOR PREDICTING SOYBEAN YIELDS

PURPOSE

Students will predict potential yields of an acre of soybeans.

TARGETED AGE LEVEL

3rd–5th grade

MATERIALS

- 1 or more hula hoops (one for each group of 3-5 students is ideal)
- Calculators

Minnesota Agriculture in the Classroom

ACTIVITY

1. Toss the hula hoop like a Frisbee into the soybean field and watch carefully to see where it lands.
2. Count the number of plants within the hula hoop.
3. Complete the following calculations to predict the soybean yield for one acre. Assume that approximately 6,500 hula-hoops would fit in one acre.

   a. How many plants in one acre?
   # of plants in hula-hoop x 6,500 = _____ plants per acre

   b. If each plant produces about 50 soybeans, how many soybeans will this acre produce?
   # plants per acre (from a.) x 50 soybeans = _____ soybeans per acre

   c. About 1500 soybeans weigh one pound (lb.). How many pounds of soybeans will this field produce?
   # of soybeans per acre (from b.) divided by 1500 lbs. = _____ bs. of soybeans

   d. If one bushel of soybeans weigh 60 pounds, how many bushels (bu.) will this field produce?
   Lbs. of soybeans (from c.) divided by 60 lbs. = _____ bu. of soybeans

4. Ask the students if they think these numbers have changed in the last 80 years. In 1924, US soybeans yielded 11 bushels per ace and sold for $2.50 per bushel. In 2013 soybeans yielded 43 bushels per acre and sold for $12.70 per bushel. What is the current average yield and price per bushel?
5. Ask students to think about what factors might affect the yield of soybeans in his field and across Minnesota.

Continued

CLASSROOM CONNECTIONS

Science

Research what farmers do to positively impact the growing conditions (soil, water, sun, temp. etc.) for soybeans.

Social Studies

Use MN Ag in the Classroom maps found at **minnesota.agclassroom.org/educator/fft.cfm** to discuss where soybeans are grown in Minnesota and why.

ACADEMIC STANDARDS

Minnesota Math Standards and Benchmarks

5.1.1.4 Solve real-world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context.

Minnesota Science Standards and Benchmarkss

3.4.1.1.1 Compare how the different structures of plants and animals serve various functions of growth, survival and reproduction. For example: Skeletons in animals and stems in plants provide strength and stability.

National Agricultural Literacy Outcomes

T1. 3-5b Explain how the interaction of the sun, soil, water, and weather in plant and animal growth impacts agricultural production.

ADDITIONAL RESOURCES

Book: ***Soybeans in the Story of Agriculture*** by Susan Anderson and JoAnne Buggey

Adapted from Nebraska Ag in the Classroom