



Kentucky Harvest of the Month

MAY: STRAWBERRIES

Growing Strawberries in KY

Strawberries are grown all across Kentucky and most commercial growers grow them in a way you might not expect; they use the "annual plasticulture strawberry production system". In the fall, growers put new strawberry plants into the ground. Strawberry plugs are planted in holes cut into plastic mulch film covering raised beds. In the spring, the strawberries are harvested by hand. Later that year, the strawberry plants are either removed or cultivated into the soil, new strawberry plants are planted and the process starts over again.



Ideas for Your Classroom

Elementary School

- Read *The Little Mouse, the Red Ripe Strawberry and the Hungry Bear* by Don and Audrey Wood (best for lower grades, pre-K - 1st)
- Read this article on [Strawberry Schools](#) to your students. Then have them complete the *Strawberry School Journal Activity* (attached) (best for upper-level elementary grades, 4th - 5th; could also be used for early middle)

Middle School

- *Strawberry Math Activity* (see attachment - could also be used for early high school levels)

High School

- [Strawberries and Labor Lesson](#) from the Edible Schoolyard Project - read about the extensive labor requirements for harvesting strawberries
- [Strawberry Breeding and Genetics Lesson](#) from National Agriculture in the Classroom - learn about DNA by extracting it from strawberries!

Name: _____

Strawberry Math



Today, you are a Kentucky strawberry farmer. You are farmer, owner and operator of Best Berry Farms. You harvest the majority of your strawberries in late April and May, but your work spans the entire year! In the fall, you plant all of your strawberry plants, which will produce berries in the next year. In the spring, you tend to the plants and harvest the berries. After harvest, you start all over - remove the old plants and plant new ones in the fall.

1. On each acre you plant 5,000 strawberry plants, and each plant costs \$0.20. You can produce 9,000 quarts per acre. If you can sell the strawberries for \$4 per quart, what will be your profit for one acre (not factoring in other costs like labor) over the harvest season? *Hint - calculate the total sales for your berries; then calculate how much it costs for all of the plants in one acre first; then, subtract the costs from the total sales.*

2. Using the info above, now calculate the total profit per quart (not including other costs like labor). What is your total cost per quart?

3. Last week, you picked and sold 83 gallons of strawberries. Each bucket sold for \$15.00 and 1 gallon = 4 quarts. You paid a worker \$10/hour for 20 hours to pick the strawberries. Including the costs for the plants, how much money did you make last week?

4. What are other costs to grow the strawberries? *Think about what it takes to make them grow...*

5. What are ways that a farmer could increase their profit and/or decrease their costs? What do you think is the *easiest* way to increase profit when selling strawberries? Make sure to explain your answer.



Name: _____

Strawberry Math



Today, you are a Kentucky strawberry farmer. You are farmer, owner and operator of Best Berry Farms. You harvest the majority of your strawberries in May and June, but your work spans the entire year! In the fall, you plant all of your strawberry plants, which will produce berries in the next year. In the spring, you tend to the plants and harvest the berries. After harvest, you start all over - remove the old plants and plant new ones in the fall.

1. On each acre you plant 5,000 strawberry plants, and each plant costs \$0.20. You can produce 9,000 quarts per acre. If you can sell the strawberries for \$4 per quart, what will be your profit for one acre (not factoring in other costs like labor) over the harvest season? *Hint - calculate the total sales for your berries; then calculate how much it costs for all of the plants in one acre first; then, subtract the costs from the total sales.*

$$\text{\$4/quart} * 9,000 \text{ quarts} = \text{\$36,000}$$

$$5000 \text{ strawberry plants} * \text{\$0.20/plant} = \text{\$1000}$$

$$\text{\$36,000} - \text{\$1000} = \text{\$35,000 profit/acre (not factoring in labor costs, packaging, or transportation)}$$

2. Using the info above, now calculate the total profit per quart (not including other costs like labor). What is your total cost per quart?

$$\text{\$35,000 profit} / 9,000 \text{ quarts} = \text{\$3.89 profit/quart}$$

$$\text{Total cost} = \text{\$4} - \text{\$3.89} = \text{\$0.11/quart}$$

3. Last week, you picked and sold 83 gallons of strawberries. Each bucket sold for \$15.00 and 1 gallon = 4 quarts. You paid a worker \$10/hour for 20 hours to pick the strawberries. Including the costs for the plants, how much money did you make last week?

$$\text{Total sales} = 83 \text{ gallons} * \text{\$15.00/gallon} = \text{\$1,245}$$

$$\text{Total labor} = \text{\$10/hour} * 20 \text{ hours} = \text{\$200}$$

$$\text{Plant cost} = \text{\$0.11/quart} * 4 \text{ quarts/gallon} * 83 \text{ gallons} = \text{\$36.52}$$

$$\text{Total profit} = \text{\$1245} - \text{\$200} - \text{\$36.52} = \text{\$1,008.48}$$

4. What are other costs to grow the strawberries? *Think about what it takes to make them grow...*

- Water
- Fertilizer
- Herbicides/pesticides
- Any equipment used like a tractor
- Plastic to grow the strawberries on
- Labor costs to pay someone to sell them (at a farmers market, for example)
- The farmer's own time
- Packaging
- Advertising costs (signs, radio ads, etc.)
- Transportation to the market
- Frost protection - row covers
- Cover crop seeds for between rows

5. What are ways that a farmer could increase their profit and/or decrease their costs? What do you think is the easiest way to increase profit when selling strawberries? Make sure to explain your answer.

- Raise their prices for the strawberries
- Use well water, surface water, or harvest rain water through a catchment system instead of paying for city water
- Borrow equipment instead of purchasing it
- Reuse any equipment/supplies including plastic (plastic typically isn't reused for another strawberry crop but possibly a vegetable crop following the strawberries)
- Buy materials like pesticides and herbicides in bulk

