



## TOPIC: Growing the “Berry” Best Strawberries

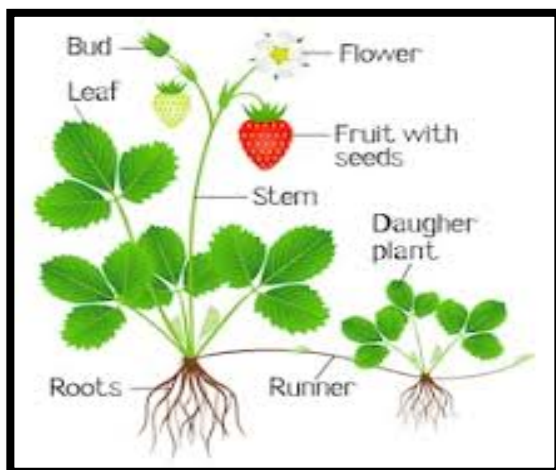
### Strawberries:

Do you like to eat strawberries? What do you know about strawberries?

Strawberries are a type of fruit. When ripe, strawberries are red, soft, and sweet, but they do not ripen without proper care. They require a full year’s work before they can be harvested and go through the same cycle every year. In this lesson, we will be learning about the different strawberry phases throughout the year. The following pictures have been provided by **Harriet Wegmeyer** from **Wegmeyer Farms** in Loudoun County (<http://wegmeyerfarms.com/>).

### Planting:

You might be wondering how strawberries are planted. On farms, farmers plant plugs in the early fall to allow time for the roots to establish before the cold weather puts the plants into dormancy. Strawberries are usually grown in rows on a large field, as shown in the picture to the right. →



When a strawberry plant matures, it grows thin green stems called runners, which stretch across the soil around the strawberry plant. Daughter plants can then grow from the runners and create new strawberry plants! Farms like Wegmeyer Farms that use a raised bed growing system do not allow the daughter plants to grow. They take energy away from the mother plant and that means less strawberries. (In a garden, daughter plants are fine, but not on a farm.)

Can you point to the runner and the daughter plant in the picture? Will the daughter plant grow to become a new strawberry bush?

What other parts of the strawberry plant can you identify from the picture?

### **Needs to grow**

What do all plants need to grow and survive? Do you think strawberries need more than what other plants need?

Just like all plants, strawberries create food through photosynthesis. Photosynthesis is the process of making food using sunlight, water, carbon dioxide, and nutrients from the ground.

- ✓ Strawberries require full 6-10 hours of direct sunlight, so before planting a strawberry, make sure there is little to no shade covering the field.
- ✓ Strawberries require a lot of nutrients, specifically potassium and nitrogen. As long as they are fertilized, strawberry plants can grow in different types of soil. Strawberry farms use a process called fertigation which takes water soluble fertilizer dissolved in water and delivers the water and nutrients right to the root system through an irrigation line.
- ✓ Strawberries need about 1 inch of water per week for photosynthesis. Water is also used when transporting nutrients from the soil into the plant. Wegmeyer Farms uses black plastic on raised beds which keeps the water in and the weeds out.
- ✓ Weather has a huge impact on when strawberries ripen. When the plants come out of dormancy (usually early March), they will start growing and eventually produce blossoms. The blossom is the start of the strawberry and will be killed with frost or at 32 degrees or below. Some farms, such as Wegmeyer Farms, use covers to protect plants from frost, like the picture shown on the right →



\*\*The estimated frost dates in Loudoun County are from Oct 9 to Apr 28.

### **Strawberry Cycle:**

Now that you know what it takes to grow a strawberry plant, let us learn about the different stages that it goes through during the plant cycle!

- 1) The strawberry plugs are planted as described above.
- 2) When the weather is warm enough, the strawberry plant will come out of dormancy and grow. In this stage, we only see green leaves.

- 3) A flower with white petals and yellow bud blossoms in the Spring season. This is the flower of a healthy strawberry plant.



If the strawberry blossom is exposed to frost, the once-yellow flower center turns black and dies. It will not turn into a strawberry.



- 4) The flowers then lose the petals and a small green strawberry starts to grow.





If the plant was damaged from the colder months and had a black center in the middle of the flower bud, then those flowers will never become strawberries.

- 5) The green berries start to grow bigger, softer. The strawberries also grow seeds on the outside.



They also begin to get whiter, too!

If you look closely, this strawberry is just starting to show a tiny bit of pink by the stem!



- 6) Just like what you see in the picture above, strawberries ripen from the stem and work their way down to the bottom edge.



This berry is ripening and still has a little bit of green/white on the bottom tip.

These beautiful, red strawberries look like they are perfect for picking, washing, and eating!



In the following picture, there are several stages of strawberries. It takes about 3 weeks from the strawberry plant to go from a blossom to a ripe strawberry.



How can you tell the difference between a ripe strawberry and a strawberry that still needs time to grow?

Which picture of the strawberry plant is your favorite? Why?

A BERRY GOOD TIMELINE

# STRAWBERRY CYCLE ON A FARM



## August

Raised beds are laid including irrigation lines



## September

Plant strawberry plugs or plants to establish roots before plants go dormant



## December/January

Plants go dormant



## Early March

Plants come out of dormancy and start growing



## March/April

Fertigation and plant growth including blossoms



## April

Lots of row cover usage to protect blossoms from frost



## May/June

Pick and eat strawberries



## July

Plants are tilled up to get the field ready for next years planting





### **Strawberry Preserves:**

Strawberries are delicious all year round, not just during the spring and summer months! Many people make strawberry preserves so their families can enjoy the savory taste even after strawberry-picking season is over. The following is a recipe that you can try at home with an adult! This recipe yields about 6 8-ounce jars.

#### Ingredients

- juice of 2 lemons, strained
- 4-1/2 cups sugar
- 2 pounds small to medium strawberries, hulled

#### Instructions

- In a medium saucepan over medium high heat, combine lemon juice and sugar. Cook undisturbed until most of the sugar is melted, about 10 minutes. Gently stir, until sugar is completely melted. Using a moistened pastry brush, wash down any sugar crystals from the side of the pan.
- Add strawberries and raise heat to high and gently boil (and gently mash the strawberries) until the mixture reaches 220° – continue to boil until thickened, about 5 minutes. Let cool about 5 minutes, then spoon the preserves into 6 very clean, 8-ounce canning jars, leaving a ¼ inch of space at the top, and close with the lids and rings. Let cool and refrigerate or process.
- To process, boil the sealed jars for 15 minutes. Let cool to room temperature and serve after 2 days or store the preserves in a cool, dark place for up to 1 year. Refrigerate after opening.



### **Strawberry Science Experiment: Extracting DNA**

DNA are molecules in cells that are the blueprint or recipe for all living things. They are a long string of information. We can easily extract the DNA from strawberries. You can also try to extract DNA from other fruit such as bananas. For instructions, click here:

<https://bit.ly/3d0t110>

**Materials Needed:** Strawberries, Ziploc bag, dish detergent, water, plastic cups, coffee filter, rubbing alcohol, and coffee stirrer.



Strawberry Coloring Page

