

# Harvest:

Yesterday, Today, and Tomorrow

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## **What You Already Know**

Wheat is a plant that grows in fields almost everywhere. It is used to make bread, cereal, noodles, and many other types of food that are made from grain. Farmers grow plants like wheat in their fields and when harvest comes it is time to cut the wheat. In the past they had to cut wheat row by row with a scythe. In recent history and vast jumps in technology there is now a machine that cuts and cleans the grain for us all by itself.



## The First Combines

With the creation of combines no longer did farmers have to go through row after row with a scythe cutting and bunching wheat. Now, there were two machines that were both pulled by horses: a swather and a thrasher. The **swather** cuts all the wheat and lays it in a row. It has a **sickle section**, which has multiple little triangles with blades on a bar. It goes back and forth cutting the wheat. The **thrasher** separates different parts of the wheat and lays it in a row. Then, the combine picks it up and 3 to 4 men bag it. They then take it to the market or put it on barges or trains.





In the last 55 years America has made strides in technology especially with combines. John Deere in particular had one of the best self-propelled combines.

Combines that are similar to the ones seen today were able to cut the wheat and thrash it as it filled up in the combine. When it was full, the driver would wait for a truck and would then dump it as the **auger** ran to unload the **bulk tank**.



This combine is 55 years old and was one of the first of its kind. During its time it was huge with a 15-foot header and a bulk tank of an amazing 40 bushels of wheat. It is no wonder why the horses were retired from the fields! This little machine doubled the productivity and shortened the length of harvest.

## Harvest in the 80s and 90s



By the early 90s the combine you see above had again outdone the combines of the years before. Its bulk tank was quadruple the size at 120 bushels, compared to the old 40 bushels. The 22-foot header seemed to dwarf the headers of the past that were only 15-foot headers.

## Harvest Today



Combines have grown even bigger as now the header alone on a combine can weigh as much as the whole combine did 55 years ago. The header has grown to the average width of 35 to 40-feet long. This gives it the ability to cut double to triple the amount of its ancestors in a single pass. Not to mention, the bulk tank on a combine this big is humongous at 250 bushels.





With the bigger combines, the trucks and tractors on the farm had to increase as well. Farm trucks have grown from being 600 horsepower trucks made by Ford and GMC to changing into semi-trucks as the farms have expanded. These semi-trucks can take twice as many bushels as the original grain trucks that had been used before them.



## **Tractors: Discs and Bank-out Wagons**

Tractors have also progressed throughout the years. Although they used to be close relatives to army tanks, their tracks are no longer made out of metal. Now they are made of rubber. That is just the start though. As they have grown, so too has their horsepower and now they are able to pull huge **implements**. In recent years engineers are focusing on auto-steering for farmers, which allows them to get the most out of their fuel. A satellite takes control of the steering wheel so that the farmer is able to make a phone call or eat his lunch as the tractor drives in a straight line through the field.

During harvest, the tractors pull a disc or a bank-out wagon. The disc is in case of fires, since an implement that has a disc 2-feet in diameter cuts through the dirt and flips it on top of the straw. This muffles the fuel source for the fire as each disc is placed less than a foot away from the next.



The bank-out wagon has risen to popularity in the last few years as farmers use it to save time. It is a giant bulk tank for the combines to dump into as the tractor pulls the wagon over to the trucks. Then the farmer fills them up and then hauls them to an **elevator**.



# Glossary

Scythe: a tool used for cutting crops such as grass or wheat, with a long curved blade at the end of a long pole attached to which are one or two short handles.

Swather: a harvesting machine that cuts and windrows grain and seed crops

Sickle Sections: metal triangles that are attached to a bar on one side as the other two sides are serrated.

Thrasher: a farm machine for separating seeds or grain from the husks and straw.

Bulk Tank: a large, often metallic container for holding or storing grain.

Auger: a shaft that acts as a conveyor to the bulk tank that it is attached to.

Implements: A broad term used to refer to types of equipment that serve a unique purpose and can be pulled behind a tractor or truck.

Bushel: 60 lbs. of wheat.

# Works Referenced

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# Common Core State Standards

## **CCSS.ELA-Literacy.RI.5.4**

**Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *grade 5 topic or subject area*.**

## **CCSS.ELA-Literacy.RI.5.2**

**Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.**

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