

Basic facts about Farm Machinery and Equipment

The following information is taken from the Wisconsin AITC Food and Farm Connections Lesson Plans – 2003. Please note that there are many different types of farm equipment and machinery- this summary covers basic information. Please refer to the website references and visit various farm machinery and equipment manufactures to learn more about new equipment, new innovations, and other technology that has been developed.

Introduction:

Farmers use many types of machinery and equipment to help them with their job. Some of them include tractors, combines, planters, mowers, tractor loaders, hay balers, and spreaders. This is not all of the equipment/machinery that farmers need. The type of farming a farmer does determine what type he or she needs. Today's equipment and machinery help crop and livestock farmers produce better quality products in larger amounts. This means that one farmer can feed more people now than ever before.

Here are some of the pieces of equipment or machinery farmers might need:

Combine – Since the 1930's farmers have used combines to pick grain from fields. It is called a "combine" because it combines the task of picking and threshing into one operation. These tasks used to be done separately. A combine separates grain from stalks as it cuts a crop in the field. As the combine cuts the grain out of the field, it also removes the corn kernels from the cob and the soybeans from the soybean pods. The crop is stored in a big tank that is part of the combine. When full, the auger, a long arm on the side of the combine, moves the crop from the storage tank and dumps it into a truck or wagon.

Irrigation System – Irrigation systems give crops extra water when there is not enough rainfall to produce the best plants. One type is surface irrigation, which carries water through canals from bodies of water to holding ditches to the crops. Another type is sprinkler irrigation, which pumps water from a well into a sprinkler which waters the crops.

Manure Spreader – A manure spreader is a piece of equipment that spreads manure (animal waste) onto the crops. Manure is useful as fertilizer; containing nutrients that help crops grow.

Hay Baler – A hay baler is a machine that picks up the straw or hay and packs it together into round or square bales. Hay balers also wrap twine around the bale and drop it onto the ground or throw it into a wagon.

Feeders – Automatic feeders make feeding animals easier. The feed is mixed by a machine and put in feeders that may hold enough feed to last several days. Automatic feeders are used for feeding many types of animals, including cattle, pigs, and chickens. Automatic feeders save a lot of hard work for the producer.

Sprayer – Sprayers spread liquid crop protection products to reduce insects and weeds. Sprayers usually have booms, which are arms that hang over and spray the crops. Some sprayers have booms that are 60 feet wide!

Milking Machine – Milking machines are used by dairy farmers. The machines milk the cows using a suction system and transport the milk through pipes to the bulk milk cooler. By hand, a farmer used to spend 2-3 hours milking 20 cows. With a milking machine, a farmer spends approximately 15 minutes milking 20 cows.

Grain Bins – These tall metal bins hold animal feed and keep it fresh for a long time. Today, most grain bins can be activated to drop feed onto a conveyor which feeds the animals.

Bulk Milk Cooler – Bulk milk coolers keep milk cool until the dairy company comes to transport it to the dairy plant. Some milk coolers can hold up to 8,000 gallons of milk. Larger farms may have their own tanker trucks that milk is pumped directly into and then moved to a processing facility.

Tractor – A tractor does many things on a farm. It is used to plant, cultivate, pull heavy loads, and much more. Tractors can pull these heavy machines and equipment because they have powerful engines. In fact, tractor engines are so powerful they may equal the power that 200 or more horses would have. Tractors also have huge tires to keep them from compacting the soil.

Silo – Silos are structures which store chopped plants and grain, or silage. Silage is fed to cows, and silos keep the feed dry and fresh. Most silos are round and above ground. Some other types are trench, bunker, and box silos. Upright silos are filled at the top by machines, and the silage is packed tightly as it fills the silo. Silage may be unloaded either from the top or the bottom, depending on the type of silo. A large silo can hold several million pounds of silage. Silos can be made of clay tile, stone, brick, sheet metal, concrete, wood blocks, or fiberglass-lined steel. Today, many farmers store their silage in large plastic bags to keep it fresh. Trench silos allow the silage to be dumped in an area with concrete walls and floor. Silage is then compacted and covered with plastic. Tires often are used to hold the plastic down.

Planter – A planter is a piece of equipment used to plant seeds in the fields. Planters put the seeds in the soil and cover the seeds with more soil. Planters have tanks to hold the seeds that will be planted. There is a seed meter on the planters to drop the right amount of seeds into the soil. There is a row of wheels on the planter to cover the seeds with soil once they are dropped into the field. There are different types of planters that plant different crops. Farmers use a corn planter to plant corn. Farmers use a drill to plant soybeans. A drill plants the rows of soybeans closer together than corn rows. Since cornstalks grow much bigger than soybean stalks, corn needs to be planted in wider rows. Soybeans can be planted in narrower rows, which also helps a farmer plant more rows of soybeans in one field.

Cultivator – Cultivators are used to loosen the soil between the rows of plants and dig out weeds.

Websites to visit: This is just a partial listing of various brands of equipment and not an endorsement of any particular one. There are many more to be explored by searching “farm equipment” or “farm machinery”.

www.kidsfarm.com/equipment.htm

www.deere.com

www.caseih.com

www.fabco.com

www.gehl.com

www.antiquefarming.com/history.html

www.agcocorp.com

www.mccormickusa.com

www.kuhnknight.com

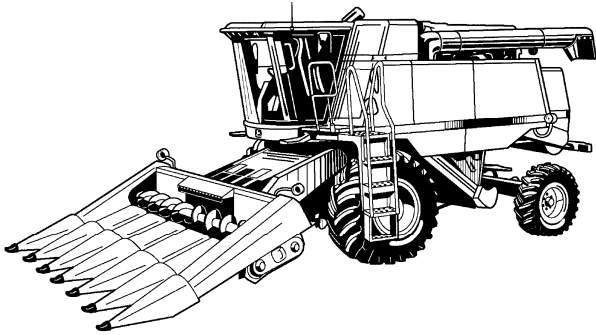
www.agclassroom.org/gan - Growing a Nation – Classroom Resources, Instructional Unit, Prosperity & Challenges, Lesson 3, 1950-1969

www.cfaitc.org (click on Lesson Plans, Grades 2-5, Simple and Complex Machines Used in Agriculture)

Can you identify?

Name _____

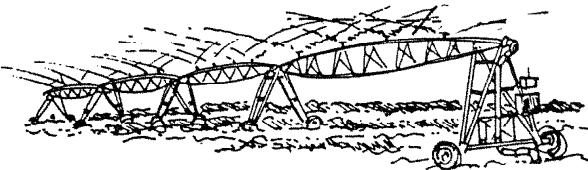
For each piece of machinery, identify what it is and what it is used for.



A. _____



B. _____



C. _____



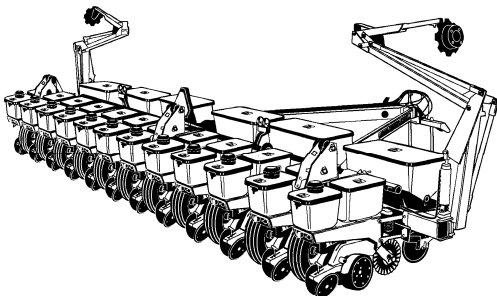
D. _____



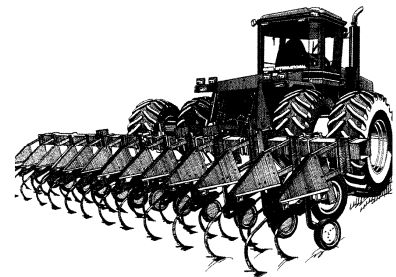
E. _____



F. _____



G. _____



H. _____