



Early Tools of Agriculture

This lesson will provide an overview of the beginnings of agricultural equipment. This lesson should be followed by Lesson 14: The Farm Equipment Explosion.

Outcome:

RW4.1 Analyze the strategies Saskatchewan people have developed to meet the challenges presented by the natural environment.

Indicator:

RW4.1 a. List the challenges and opportunities climate presents for residents of Saskatchewan.

RW4.1 g. Investigate the technological evolution of farming practices in Saskatchewan, including crop variety development, pesticide and herbicide use, and soil and water conservation.

Statements to Guide Inquiry:

1. Consider the challenges of farming in Saskatchewan's early years.
2. Consider that our early farming practices still exist in some parts of the world.



Two
45 minute
classes

Teacher Background

The websites below will provide information on farm tools and machinery, past and present:

This American site has information on farm tools as well as other related links. <http://inventors.about.com/library/inventors/blfarm1.htm>

This American site has a timeline of agricultural machinery from 5500 B.C. to the present. www.farm-equipment.com/pages/Feature-Articles--Timeline-of-Ag-Equipment-Firsts.php

Look under "Agriculture" for many interesting links including farm machinery. www.sasksettlement.com

Some interesting facts:

- For thousands of years people used stone wheels powered by wind to grind wheat into flour for bread.
- In the middle of the nineteenth century, a Swiss engineer invented a new type of mill with rollers made of steel which operated one above the other and were driven by steam-engines. Meanwhile, the North American Prairies were found to be ideally suited to grow wheat. This, together with the invention of the

MATERIALS NEEDED:

- * selected handouts
- * highlighters
- * images (print & digital) of modern farm equipment
- * internet (optional)



roller-milling system, meant that for the first time in history, whiter flour (therefore, bread) could be produced at a price which brought it within the reach of everyone—not just the rich.

- 🌱 5,200 B.C. —The earliest known Egyptian farm implement is a stone sickle bar point. An early scythe, completely intact with stone points attached, was found in 2008 in excavations in the Fayium depression, a fertile oasis about 80 km west of Cairo.
- 🌱 1,500 B.C. — Wooden plows, pulled by domesticated animals, became the accepted tool to prepare the ground for planting.

Before Activity

Distribute copies of Handout 13.2. In addition, display a number of pictures on the overhead, using the digital projector, or on a bulletin board visible to all students of some newer equipment. Students should be seeing images of a variety of farm implements, new and old. Include a ploughshare, a harrow, a person scattering seed, a sickle, a scythe, a cradle, stooks, a windmill, a modern threshing machine. The Western Development Museum site has pictures at <http://olc.spsd.sk.ca/DE/Saskatchewan100/theme-agriculture.html>

The web site below has a search application to locate many of the terms in Handout 13.2. The application displays an actual photograph. www.sasksettlement.com

Ask students to write down their thoughts on:

- 🌱 ways in which these images are similar
- 🌱 ways in which these images are different

Share as a class. Students should make observations such as: *these are all tools humans have created; not all the tools are commonly used in Saskatchewan anymore; some tools rely on human power to use them, some do not.*

During Activity

Activity One

Read and discuss as a class “Early Tools of Agriculture” (Handout 13.1). Pause in the reading to clarify, to ask questions, and to answer student questions. Point to the images of tools as you come to them in the passage.

When the reading is complete, divide students into pairs. Students will reread the passage to decide which vocabulary words are specific agriculture terms for tools and highlight those on the handout. They will decide which are specific terms for agricultural processes and underline those. When students have completed the highlighting/underlining, display some of the pictures again. Pose questions like the following:

- 🌱 What is this?
- 🌱 What does it do?
- 🌱 Do you know anything else about it?



Ask students to demonstrate the processes of broadcasting and winnowing. Ask them what they might feel like after hours and hours engaged in these activities.

(Vocabulary: plough, harrow, sickle, scythe, cradle, flail, broadcasting, winnowing)

Activity Two

Read and discuss the online stories about Saskatchewan farms found at www.saskstories.ca/english/work/growth/farm/lifestyles/index.html. Included are archival pictures.

An alternative is to have students read and discuss Handout 13.3, *Nana and the Threshing Crew*, an adaptation from a chapter of *Prairie Cooks* by Young and Young (1993).



After Activity

It is 1875 and you live on a farm in Saskatchewan. Write a diary entry about a day working on the farm. What would it have been like? What would you and your family have done? Use some of your new vocabulary in your entry.

Assessment

Teacher Checklist

- ✓ Could students identify the farm tools and early practices with some familiarity and articulate the purpose of each?
- ✓ Did student journal entry indicate understanding of early farm tools and practices?

Obsolete farm machinery can be found buried beneath the grasses on old homesteads across the Prairies - what's in your area?

Lesson Resources

[Celebrating Saskatchewan's Heritage](http://www.saskstories.ca/english/work/growth/farm/lifestyles/index.html) has a number of links applicable to this lesson including background information, online activities for students, and multimedia items. <http://olc.spsd.sk.ca/DE/Saskatchewan100/theme-agriculture.html>

Narratives about work and lifestyles of Saskatchewan settlers. www.saskstories.ca/english/work/growth/farm/lifestyles/index.html

Cross Curricular Connections

ELA

Students will be writing a journal entry with audience, purpose, and situation in mind.



Further Investigation

On the classroom timeline, separately draw and label the simple tools they see on the diagram. Make sure the students write what their use was and what materials they think they were made of on their timeline in positions that would be close to their time in history. Add any other tools mentioned in the passage to the timeline. Use the internet to help with historical times.

Show students some of the Saskatchewan farmers and inventors who made significant contributions to agriculture equipment development.

http://www.econet.sk.ca/sk_enviro_champions/farmers.html

Visit the Western Development Museum website with students. See

<http://olc.spsd.sk.ca/DE/Saskatchewan100/theme-agriculture.html>

Visit the Western Development Museum to see the older tools or another location where these tools are displayed. There are even some Saskatchewan restaurants which display older tools as part of the décor.

*There are many great
vidoes on youtube.com
that show older farm
equipment and hand
tools in use!*



The Early Tools of Agriculture

When people first began working the fields, they used their own power to work the soil. Most work was done 'by hand'. When human power was not enough to meet their needs, they used animal power, and then the power of machines, to make their work easier.

During the last part of the 1800s, settlers on the Canadian Prairies began to work the land. The aboriginal people of the region had been happy to live off the land working along with nature, but the new homesteaders sought to tame the earth. They were called "sod-busters", people who were determined to break up the tough prairie sod and battle the harsh climate of the region.

The land was first broken up with a plough and a harrow. The plough had a sharp blade that cut into the earth and turned over the soil. The plough was pulled by oxen or horses. The farmer had to keep the blade of the plough in the ground and had to be careful not to hit any large rocks, stumps, or roots. Next a harrow was pulled over the soil to break up the lumps and smooth out the ground. A harrow looked like a large rake with rows of teeth.

Sowing the seed was done by broadcasting. This meant the farmer would take the seed, which was usually carried in a shoulder bag placed across the body, and scatter the seed by hand.





Between the time the seeds were planted and the plants were gathered, there were many things which could harm the crop. There could be too many weeds, drought (not enough water), floods, frost, hail, insects, plant diseases, and prairie fires. All these things could destroy a farmer's crop.

When a crop was ready to harvest the farmer used a sickle, scythe, or cradle scythe to cut the crop. Then the stalks were bundled into sheaves. The bunches of sheaves were leaned against each other so the sheaves stood up. The standing bundles were called stooks. The stooks were left to dry in the field. Later, the sheaves were hauled to the barn ready to be threshed.

Threshing is separating the kernels of grain from the hull (the hard outer covering) and straw so that the grain can be turned into flour. The grain was spread out on the floor of the barn and hit with a tool called a flail. The flail was a long stick attached to a wooden handle. Seeds, chaff (bits of seed head) and straw remained after flailing. After most of the straw was raked away, the farmer gathered what was left.

The grain seeds and chaff were placed in a winnowing tray (or basket) and shaken and tossed on a windy day. The wind would blow the light straw and chaff away and the seed would fall back into the tray. This was called 'winnowing' and was done over and over. This process could take up to two months.



*Two men working
in hay field*



*1930 Isaac Blatt & sons
Henry and Jack stooking
wheat sheaves, Sommerfeld
Colony - Oungre, SK.*



Stooked wheat



*Sweeping the threshing
floor in order to pile up
the seed*



Winnowed grain was stored for animal feed or taken in sacks to the mill to be ground into flour. Stone-ground flour was better than flour ground by hand.

Tools such as flails, scythes, and sickles were critical in the settlement of the Canadian Prairies. In Canada, these tools are rarely seen on Saskatchewan farms anymore. In fact, they are rarely seen outside of museums. They have been replaced by equipment and methods that have changed farming forever. However, we should be aware that not all countries have farming practices as advanced as those in Saskatchewan. In many places around the world, farmers are still using farming tools and methods similar to the ones our early settlers used.

Adapted from <http://olc.spsd.sk.ca/DE/Sask100gallery/index.htm>



Jean-Francois Millet depicts a farmer winnowing grain



1899 Doukhobor women winnowing grain



Horse drawn rake

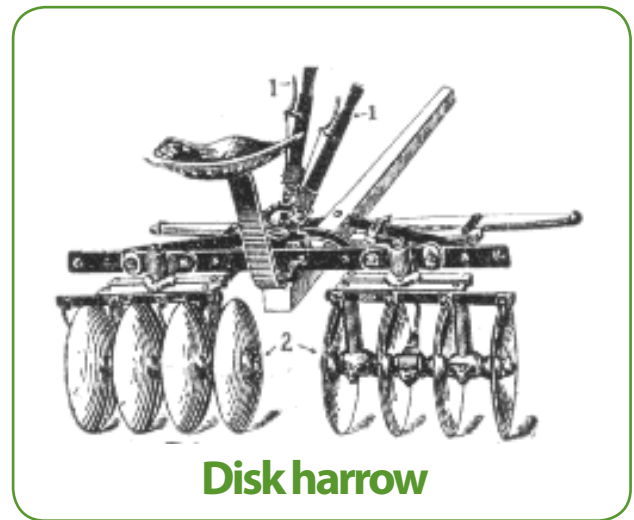
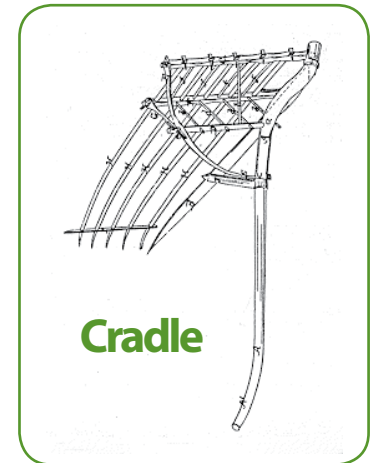


10-20 HP Mogul tractor breaking sod with a 4-bottom plow.

Historic photos accessed from <http://olc.spsd.sk.ca/DE/Sask100gallery/index.htm> and to be reproduced for educational purposes only.



The Early Tools of Agriculture Images





Nana and the Threshing Crew

My Nana was born in Norway and came to Saskatchewan when she was just a teenager. She loved to tell me stories about her years on the homestead. When I asked her if she was what we would call a pioneer, she replied, "I never thought about it, but I suppose you could call me that. At the end of each day all I would call *myself*, was tired."

One of my favourite "Nana stories" was how she cooked for the threshers on her father's grain farm near Weyburn. She talked about how she and her mother would bake around the clock. She said that they needed to for the two dozen men they fed numerous times a day. The two women would often bake more than twelve loaves of bread at a time. Dozens of pies made with whatever was available - dried apples, rhubarb, raisins, saskatoons - were produced daily from a tiny kitchen the size of our current front hall. There was always a huge, black kettle of lard on the stove to fry at least a hundred doughnuts a day.

On nights Nana managed to sleep at all, she and her mother would be up at three o'clock in the morning to stir up the fire in the stove. It needed to be hot enough to boil a couple of gallons of coffee (Nana never got used to the metric system). It also needed





to be hot enough to make stacks and stacks of pancakes on the griddle that covered two holes on the range. They needed to stockpile a quantity of pancakes to put in the warming oven so they were prepared for the morning rush. The crew would begin to appear on the kitchen steps at the first light of day. The flapjacks had to be ready and waiting for them because the men ate faster than the women could fry up the batter. By sunrise, the entire crew were fed and out in the fields. The threshing crew's day had just begun.



The day had just begun for the women as well. By nine, they had dishpans of sandwiches and doughnuts, ready to go out to the field. They would stand by the threshing rig to pour the coffee out of huge granite coffee pots, always careful to stand upwind so the blowing dust and straw wouldn't end up in the men's tin cups. The men came in relays as their wagons were emptied.

Then it was back to the kitchen to prepare the noon meal. If the crew was working against the clock, Nana and her mother would take that meal into the field, too. Otherwise, the men would appear and find a space wherever they could in the kitchen, on the steps, or in the yard. They would be helped to a portion of the day's main meal, often a roast and vegetables or beef stew with potatoes, carrots, and onions. And almost always, there would be pie. To



*Hulda Swedburg, daughter
of a Swedish-American
settler, in her kitchen in the
Marchwell district, 1906*



be more specific, there would be many pies. Pie, Nana explained, was easy to carry into the fields and it was filling. I remember that Nana made wonderful pies. She must have had a lot of practice.

After dinner, the women could be found at the lard kettle frying up more doughnuts for the afternoon lunch which also consisted of sandwiches and coffee.

At sunset the men would come in from the field. They would be tired and dirty. Supper would consist of leftovers from the noon meal often in the form of baked hash. Biscuits and cake would be expected as well.

After the last man had left, it was time to light the lanterns, bake some more bread, grind yet more coffee, and sift the flour for the next day's pancakes. When I asked what her two younger brothers were doing when she was working so hard, she told me they were expected to work alongside the men in the field doing whatever they could to help. Sometimes that was carrying heavy buckets of water to the men who sweated under the hot prairie sun. Sometimes it was following the horse-drawn wagon picking up any grain that had fallen out and tossing it back onto the piles. During harvest, the boys worked from dawn to dusk, and then some. They





were often called out of bed in the middle of the night to get more wood to keep the fire in the range going for the ongoing meal preparation.

I remember asking Nana where all these men in the threshing crews came from and what they did after the harvest was over. She explained that harvest time on the prairies usually meant a serious labour shortage. The government and railways worked together to attract farm labourers to Saskatchewan by offering them low fares and high wages. These efforts attracted large numbers of temporary workers often from Ontario and the Maritimes. After the harvest most would end up returning to their homes. When Nana told me this she smiled a little.

"You know there was one particular one who came for the harvest and ended up staying. He was so handsome. His eyes were as blue as the prairie sky. He was a picky eater but never turned down a piece of pie."

It seems my grandfather liked Nana's pies as much as I did.

Adapted from:

Young, C., Young, F. (1993). *Prairie Cooking: Glorified rice, three day buns, and other reminiscences*. Iowa City, IA: University of Iowa Press.

Historic photos accessed from <http://olc.spsd.sk.ca/DE/Sask100gallery/index.htm> and to be reproduced for educational purposes only.

