And feed your appreciation for Manitoba's sustainable agriculture.



READY TO GET GRILLED? THEN, LET'S GO!

Manitoba farmers produce safe and healthful foods for you and your family. They also want to make sure they farm in an environmentally-friendly and sustainable way.

Being sustainable means using what we need to live now, but making sure we keep the land healthy for people in the future. If an activity is sustainable, it should last forever.

Let's build a burger using foods made in Manitoba to learn more about sustainability and how farmers care for their farm and the environment.

True or False



Pest Control = True or False? The only problems that affect crops are bugs.

FALSE – Bugs can damage farmer's crops, but so do plant diseases and weeds!



Pest Control = True or False? Farmers can't do anything to protect their crops from bugs, diseases or weeds.

FALSE – Scientists have developed something called "pesticides" to help farmers keep their crops healthy. There are three kinds:

- 1. Insecticides protect crops from bugs
- 2. **Fungicides** protect crops from diseases
- 3. Herbicides protect crops from weeds



Pest Control = True or False?
Keeping pests away and choosing the best pesticide for the job are two of the ways
Manitoba farmers use to manage crops.

TRUE – Farmers follow six principles when deciding how to handle pests in their crops. Choosing the correct pesticide and pest prevention are two of the six principles.



Pest Control = True or False? Even though we see bugs all year, farmers only use insecticides on crops at certain times.

TRUE – Farmers use pesticides at a specific time in a bug's life cycle. They only use it when the damage from bugs will cost more than the cost of using a pesticide.



ECO-FRIENDLINESS = True or False? It is important to Manitoba farmers to grow safe and healthy food and to also take care of the environment.

TRUE – Farmers use an Environmental Farm Plan to help improve environmental sustainability. Some of the plan's topics include protecting water sources, being energy efficient and managing soil health.



EARLY/MIDDLE YEARS EDITION

Build Your BURGER

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True or False



AIR = True or False?

Dairy Barns are often very smelly, both inside and out.

FALSE – Manitoba dairy farmers use a special type of ventilation. The machines they use clean and move the air in and out of barns.



WATER = True or False? It would be good to build a livestock barn near a lake or river so that the animals are close to water.

FALSE – Livestock need lots of fresh clean water, but, farmers use wells and pipes to bring it to them. This is because livestock generate a lot of manure, and manure can get into water and cause pollution, or make people sick if they drink it.



SOIL = True or False?

Manitoba farmers have to plan how much manure is added to their crop fields.

TRUE – Farmers make a manure management plan every year to decide which fields will receive manure.

Manure gives nutrients to growing plants. The plan makes sure that fields get the right amount of manure for the crop that will grow there.



BIODIVERSITY = True or False? When Manitoba farmers harvest hay from their fields, birds and other wildlife that live there must find other places to live.

FALSE – Hay fields do provide habitat for many different types of wildlife. Harvesting hay at proper times during the year keeps nesting birds and other wildlife safer.



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PLANT-BASED PATTY

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True or False



AIR = True or False?

Growing soybeans creates less greenhouse gases than some other types of crops. Greenhouse gases are gases in earth's atmosphere that trap heat, and without them, the earth

would be too cold for us to live on it. But too many greenhouse gases can make it too hot!

TRUE - All plants need "nitrogen" to grow -(sort of like how people need Vitamin C to grow healthy and strong). But soybean plants are special because they can make their own nitrogen from the air instead of from fertilizer that farmers apply, making fewer greenhouse gases than many other crops.

> **WATER** = True or False? Manitoba Farmers just take a good guess at how much water their farms use.

FALSE – Our farmers use a tool called the Environmental Farm Plan to make sure they know how much water is needed to keep crops growing, but to also remain sustainable.



SOIL = True or False?

Crops need fertilizer to grow strong and healthy. Manitoba farmers put as much fertilizer on their crops as they want to.

FALSE - Manitoba farmers use a system called 4R Nutrient Stewardship when using fertilizer. This makes sure crops get the right amount of fertilizer at the right rate, time and place. This prevents fertilizer waste, helps plant growth and is better for the soil and water.



BIODIVERSITY = True or False?

A riparian area is land near a stream, lake or wetland where a lot of different kinds of plants grow naturally. Farmers manage these areas differently from the rest of the land.

TRUE - Farmers know that riparian areas are important to the ecosystem. They can increase biodiversity and protect water by managing these areas differently than other areas.



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True or False



AIR = True or False?
It is better for the environment when you look for locally grown vegetables in the grocery store and farmers' markets or grow your own.

TRUE – Some vegetables in grocery stores have travelled long distances, and the trucks that haul them produce greenhouse gas. Manitobagrown products haven't travelled far at all! You can also plant your own garden to help reduce greenhouse gases.



WATER = True or False?
Manitoba farmers water their
vegetable crops as much as possible
because plants need lots of water to
help them grow.

FALSE – Vegetables need just the right amount of water – not too much, and not too little. Just like us! Some Manitoba farmers use a special watering system called irrigation that has timers to make sure that plants receive the right amount of water at the right time.



SOIL = True or False?
Farmers add composted materials
(called mulches) to their soil to help
their plants grow better.

TRUE – Some Manitoba farmers add mulches to the soil to keep weeds from growing and keep the soil cool and damp. This helps keep the vegetables healthy. Mulches are made of composted or chopped up plants.



BIODIVERSITY = True or False? Changing the crops grown on each field from year to year is better than growing the same crop again and again.

TRUE – Changing what is grown on a field each year helps to reduce bugs and diseases from building up, and can help soil health.



Build Your

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BEEF PATTY

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True or False



AIR = True or False?

Carbon dioxide is a greenhouse gas, and too many greenhouse gases can make the earth too hot. Cattle grazing can help move carbon dioxide from the atmosphere into the soil.

TRUE - All plants perform "photosynthesis" when they grow, which takes carbon dioxide from the air and water from the soil, and turns it into sugar for the plants to eat and oxygen that we use to breathe! The reverse is also true. Over-grazing or under-grazing can hurt plant growth and reduce the amount of carbon dioxide taken up by plants.



WATER = True or False? Manitoba cattle often drink right from creeks or lakes.

FALSE – Most farmers install watering systems that take water from a well or stream, and move it into a trough for cattle to drink out of. This prevents cattle from walking into creeks or lakes to get a drink and keeps them from polluting the water.



EDITION

SOIL = True or False? Cow manure is mixed into the soil to add nutrients and reduce the smell of manure.

TRUE - Cow manure is tilled into the soil and plants use it as fertilizer. This is good for the soil, good for the crops, and it helps reduce odour.



BIODIVERSITY = True or False? Manitoba farmers move their cows around to different pastures during the summer to give the grass a rest.

TRUE – This practice is called rotational grazing. It helps grass grow, makes soil healthier and encourages different plant species to grow.



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WHEAT BUN

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True or False



AIR = True or False?

Manitoba farmers use zero tillage, which plants seed right into leftovers from last year's crop to save soil moisture and keep from disturbing the soil.

TRUE – Zero tillage uses last year's crop like a blanket to protect soil from blowing away and to keep moisture in the ground from evaporating.



SOIL = True or False?

Manitoba farmers use as much

fertilizer as possible to grow crops like wheat.

FALSE – Our farmers test each field and only use as much fertilizer as needed for that crop. This way there is just the right amount of fertilizer to grow healthy plants that are safe to eat.



WATER = True or False? Some Manitoba farmers use a system of pipes buried under the roots of plants to better manage field water.

TRUE – This system is called tile drainage and has a series of pipes with tiny slits in them. Special devices can be used to control the water flow to make sure just enough water gets to the plants.



BIODIVERSITY = True or False?

Manitoba farmers can only grow one crop at a time.

FALSE – When growing conditions are right, farmers can practice biodiversity by growing two or more crops together. This is called an intercrop. The seeds are then separated during harvest.

