



## NORTHWEST TERRITORIES CONTAMINANTS FACT SHEETS

# Muskoxen

Muskoxen is included in the traditional diets of Aboriginal peoples in the Northwest Territories. It is an important part of their health, culture and economy. People in the Northwest Territories are becoming more aware of contaminants in the environment. This fact sheet will describe what types of contaminants are in muskoxen, how they get there, and what this means to the health of people who eat them.

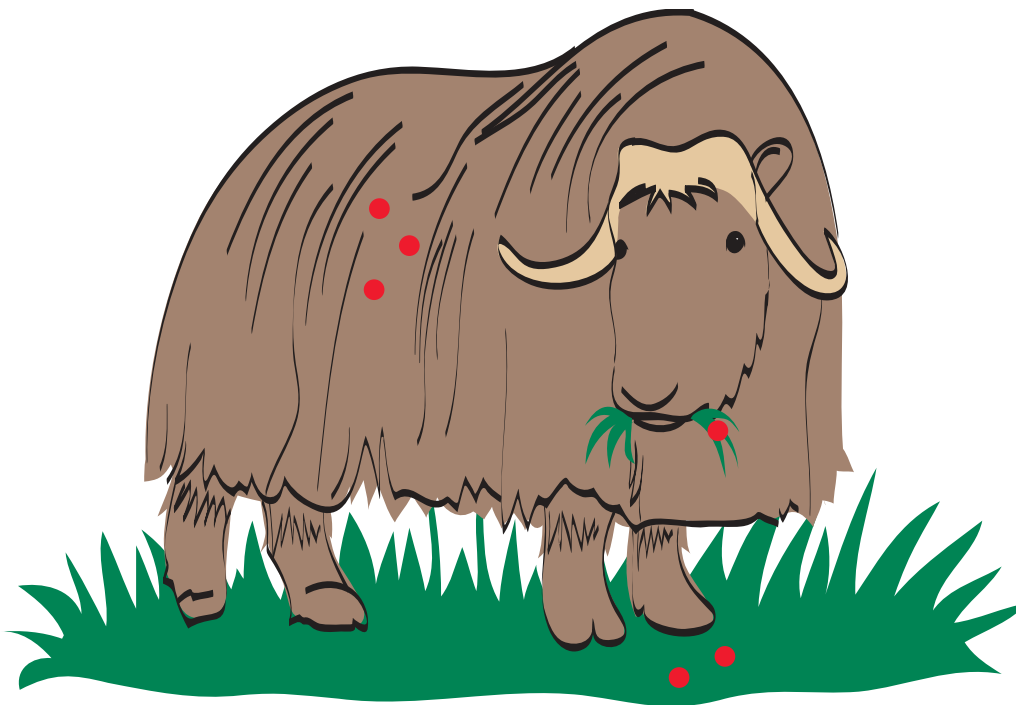
Muskoxen, like many other land-based animals, are less likely to build up elevated levels of contaminants compared to marine animals.

Since muskoxen are plant eaters they are low on the food chain. Contaminants become more concentrated when animals (predators) eat other animals (prey). This process is called biomagnification. Since muskoxen do not eat other animals, this helps them avoid building up elevated levels of contaminants.

Contaminant levels in an animal can slowly build up over time, if the animal continues to eat foods with contaminants. This is called bioaccumulation. Generally, the younger the muskox, the lower the contaminant levels.

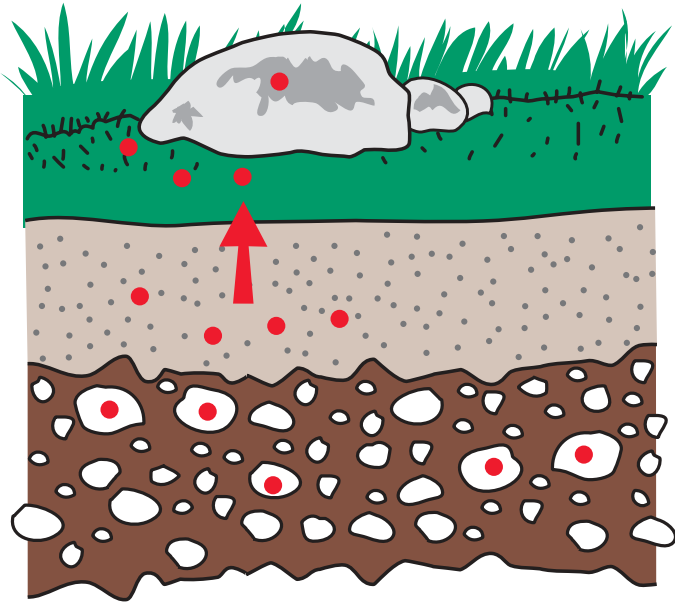
Contaminants are grouped into major types which build up in the fat or in the organs of animals. Contaminants such as persistent organic pollutants (POPs) build up in fat. (See POPs fact sheet). They are low in lean land animals such as muskoxen. Contaminants such as heavy metals (see heavy metals fact sheet) and radionuclides (see radionuclides fact sheet) can build up in organs of certain land animals. This is because the organs act as filters for the body.

Contaminant levels have been measured in muskoxen because they are an important traditional food. Studies have found that most contaminants are present at such low levels that they are not considered health risks to



● Contaminants





• Contaminants

muskoxen or to the people who eat them. The only contaminant found in slightly higher levels was the heavy metal cadmium, which concentrates in the kidneys and liver.

#### **Cadmium in muskoxen comes from the plants they eat.**

Cadmium is naturally present in the Northwest Territories, through the weathering of rocks. But it can also come from human activities such as burning fuel and garbage or from industrial sources through air currents. The lichens, grasses and sedges that muskoxen eat can absorb cadmium from the water or soil around them. Most of the plants that they eat are grasses and sedges. These die and grow back every year so they do not build up elevated levels of cadmium. Since a muskox spends many years eating plants, cadmium can build up in its organs, although at very low levels.

#### **Muskox is safe to eat!**

Concentrations of cadmium found in muskoxen are extremely low. Since it does not build up in meat, you can eat as much muskox meat as you want without worrying about contaminants.

There have never been any health advisories on eating muskoxen kidneys or livers in the Northwest Territories, because of the low levels of cadmium found.

## **Good News...**



### **Muskox is a very healthy food!**

All living things including muskoxen contain some contaminants, but they are still very healthy and nutritious.

- Muskox meat is lean and is high in protein and iron.
- Muskox liver is an excellent source of nutrients that are vital to your health, including iron, protein and vitamin A.

Muskox is a delicious and affordable food that is good for you in many ways. Eating it helps keep people connected to the land and their cultures. Hunting for muskox helps keep people fit and healthy too.

## **Did you know...**

Smokers are exposed to 20 to 30 times more cadmium than non-smokers! Smokers could consider quitting smoking, rather than avoid eating muskox organs, to lower their risk of cadmium exposure.

### **For more information please contact:**

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