



Mother Nature's Recycling Machines

Cows & Grass Beef Education Kit

Program Script

Cattle are **Mother Nature's Recycling Machines!** They recycle a lot of things that people can't use, and turn them into nutritious food and important by-products for you and me.

Because of their remarkable **4 COMPARTMENT STOMACH**, cattle can digest grasses, other parts of plants and food by-products that we can't digest. Cattle clip the grass like a lawnmower. This is called **GRAZING**. (see talking points for more detailed information)

All across South Dakota you will find rounded hills covered in native grasses that are perfect for grazing. About 2/3 of the American farmland is not suitable for growing crops. Over half of South Dakota is grassland. (**PIE CHART POSTER**) Cattle graze on land that can't be used for anything else. They harvest grass--a renewable resource-- which is of no use to you and I, and convert it into great tasting **BEEF** and important **By Products**.

Solar Energy is a basic part of cattle production. The sun's rays spread out over millions of acres of rangeland, starting the *Rangeland Nutrient Cycle*. The sun provides energy for plants to convert water and soil nutrients into food. Soil provides nutrients for plants. Plants provide nutrients for Plant Eaters. Plant Eaters provide nutrients for Meat Eaters. Grasslands, along with the sun, are **Mother Nature's Rangeland Café**. The cafe provides food for cattle, wildlife and, ultimately, you and I. **MOTHER NATURE'S RECYCLING MACHINES** provide us with **T-BONE STEAKS, BARBEQUED RIBS, JUICY HAMBURGERS** and even **PIZZA!** (**PIZZA & HAMBURGER**) As cattle recycle grass and corn stalks they produce high quality protein that you and I need in our diet.

Cattle are *ruminants*. Their remarkable stomachs have 4 compartments—you and I only have 1. This stomach helps them convert grass and other plants into nutritious food for us. First, cows use their front teeth to tear and chew the grass. The food travels down the esophagus to the first and second compartments. Then they "*burp*" this chewed food or "*cud*" back to their mouth for more chewing. This time they use their rear molars. The food then passes through all 4 parts of the stomach and the nutrients are absorbed. The waste exits the body as manure.

Now that we know **HOW** cattle convert grass into food for you and me, let's visit **Mother Nature's Rangeland Café** to see **WHAT'S** on the menu!

There are 4 types, 1600 different species, of plants that grow on rangeland—*grass, grass-like, forbs and shrubs*. (**MENU**) The menu offers **DINNER** plants that are like *broccoli and spinach*. These are really good for cattle, but not the best tasting. There are also **DESSERTS** on the menu. These are plants that are like *ice cream*—the ones that taste really good. Cattle are like kids, and like the desserts the best!

Ranchers had to come up with a way to get their cattle to "eat their vegetables" along with dessert! They don't want the cattle to eat only the "ice cream" plants. Grasslands are a valuable resource for ranchers and they work to protect the land and water. They use *fences* and *rotational grazing* to avoid overgrazing. (**FENCE/CATTLE POSTER**) Fences force the cattle eat all of the grasses—even the vegetables-- in one area before they can go into the next. Ranchers rotate their herd to other areas in order to give the "ice cream" plants a rest and a chance to grow back.

Rangeland grasses are **AMAZING** because they can survive being bitten, cut, stomped, frozen and dried out. Cattle can eat 30% of the plant without damaging it. Rangeland actually **NEEDS** to be grazed to remain healthy and promote plant diversity. If the area was not grazed, certain plants would take over the pasture, making it less productive.

Rangeland Café Activity with grasses

Can you help your herd sort out the "broccoli" plants from the "ice cream" plants?

Fences do a good job of keeping cattle where they are supposed to be. Sometimes cows just can't wait to get to the "desserts" on the other side! In order to keep track of their herd out in the pasture, ranchers use a **brand** to identify their cattle. *A brand is like the cow's "return address"*. It tells others where the animal belongs. Ranchers have been branding their animals for thousands of year. It is the best way they have found to identify them. A brand is located on the side of the animal, and is like a scar and cannot be removed.

Many times a brand will tell you something about the owner of the herd. For example, a brand with 2 Rs might be the initials of the owner or the initials of 2 partners. Designs may be letters, pictures, numbers or a combination of any of these. The design must be simple enough to shape with metal or carve into wood. It must also be easy to read. Every brand is registered so that no 2 are the same.

PLANT A BRAND Activity

Let's pretend that you are just starting out as a rancher. You need to design your very own brand to keep track of your cattle. This is a special brand. We are making it out of glue and grass seed to remind you of all of the yummy grasses on the menu at **Mother Nature's Rangeland Café**.

Cattle production is not just about grass farming and recycling. It's about people too. The farm and ranch families are at work on the land every day. The land that feeds the cattle also feeds these families as well future generations. Cattlemen live by the saying "*We didn't inherit the land from our forefathers, we borrow it from our children.*"