

## FUN FACES OF WISCONSIN AGRICULTURE BEEF ANIMAL'S DIET



Beef animals need to have five important nutrients in their diet: carbohydrates, protein, fiber, vitamins and minerals, and water.

- **Carbohydrates** provide the needed energy for the animal's body to maintain itself and to grow. What do humans need energy for? When animals have babies, some of this energy goes into feeding and growing the baby calf as well. If cows don't get enough carbohydrates, they will not grow as fast as they could and don't grow as strong. In a cow's diet, carbohydrates are often provided by grain such as wheat or corn. Where can we get carbohydrates for a human? Do they provide the same things for us?
- Cattle also require **protein** in their diet to produce muscle (which is what the meat we eat is) and to produce milk (which is a human food that is a good source of protein). What do humans need protein for? When does a person eat more protein than usual? If we don't feed them enough protein, their body needs to take it from other places inside the body and they can get sick and not grow as well. In a cow's diet, protein comes from crops like soybeans and the seed of cotton plants.
- **Fiber** is important in the diet of a cow because it helps to make their stomach work. Fiber 'tickles' the cow's stomach to get it to stay active and digest food. The four stomach compartments in a cow are triggered by the touching of this stiff part of their diet. If a cow eats too much of this fiber, they will get full before they eat the grain that provides their energy and protein.

What could happen if a cow doesn't get grain? Review the points made about protein and carbohydrates

If cows don't get enough fiber, they will need to eat too much grain to make themselves full. Too much grain can also make them sick. Like us eating all of just one type of food. If we ate just carrots all the time we would still be missing many of our needed nutrients. Cows can get fiber from crops like dry hay or haylage (which is hay that is stored in a silo) which are called forage.

Different types of fiber may also provide some protein or energy for the cow as well. The farmer needs to be careful to provide just the right amount of each of the nutrients for the animals.

If the farmer feeds a different type of forage, the whole feed ration needs to be changed to make sure the cow is getting everything she needs.

- **Vitamins and Minerals** are important to a cow's diet because they help the cows use the nutrients provided by the carbohydrates, protein and fiber. A cow needs vitamins and minerals just like we do.
- **Water** is important to a cow just like it is important to humans. A cow needs water to keep from getting dehydrated and sick. A cow is only able to eat as much feed as it can drink water. If a cow doesn't get enough water, it won't eat as much feed and will not get the needed nutrients.

For more information about beef production, have the students visit Beef- From Pasture to Plate (<http://www.beeffrompasturetoplate.org/stagesinbeefproductionprocess.aspx>)