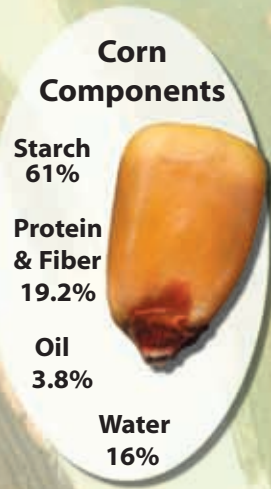


It Begins With A Kernel

Each corn kernel contains the components from which oils, starch and protein can be extracted. These kernel components are processed to create all the products that we can make from corn.



The Mighty Corn Kernel

The Endosperm
The starchy endosperm is the kernel's source of energy and protein.

The Outer Hull, or Pericarp
The hull is the hard outer shell of the kernel that protects it from deterioration.

The Germ
The germ contains all the essential components for the kernel to grow. About 25% of the germ is corn oil.

The Tip Cap
The tip cap protects the internal parts of the kernel. It is also the point at which the kernel attaches itself to the cob.

The Mill Makes It Happen

In the mill, kernels are broken down into their basic components which are then transformed into the basic corn products that are used in so many of the products we love.

Basic products made from corn - Starch, Dextrose, Syrup, Solubles, Gluten, & Hulls, Germ

Corn Makes A Difference

in the products we use, but many of us don't realize just how corn affects our daily lives. Corn components can be found in thousands of products - food, drugs, cosmetics and cleansers, just to name a few.



Beyond its food and consumer product uses, corn is rapidly replacing petroleum in many industrial applications, from plastic containers to clean-burning ethanol.

Because corn products are a biodegradable and renewable natural resource, they are better for the environment than their petroleum counterparts.



From the corn syrup in your soda pop to the cornstarch that makes this paper more printable -

corn is everywhere!

Corn Powers Our Economy!

South Dakota corn producers are investing 1 cent per bushel of corn sold to help educate, develop new uses, and build new markets for their product. Consumers, not just producers, are the beneficiaries of our research, education and market development efforts.

Each year we create additional Value-added opportunities for corn-derived products. In fact, Corn is the single largest contributor to our national balance of trade thanks to increased exports of corn products, and more reliance on corn-based products made in the U.S.

After reading this brochure you will see how we all benefit from the growing and useful list of environmentally-friendly corn products.

Corn Checkoff...It's an Investment in All of Our Futures!

For more information on the many uses of corn check out the South Dakota Corn website at sdcorn.org.

What can you get from a bushel of corn?

32 pounds of starch
or
33 pounds of sweetener
or
2.7 gallons ethanol fuel
and
17 pounds Dried Distiller's Grain
and
17 pounds of CO₂



CORN

Making the difference in the products we love.



South Dakota Corn Utilization Council
Sioux Falls, SD 57105 • 605-334-0100

Making it . . .

Sweeter.

Stronger.

Cleaner.

Tastier.

Healthier.

Friendlier.

Smoother.

Softer.

Safer.



CORN

A Natural, Biodegradable, Renewable Resource

www.sdcorn.org

Starch

A germinating kernel uses the starch in its endosperm as a source of protein and energy as it grows. Because of this energy, there are many food, drug, cosmetic and industrial uses for corn starch. The starch can also be converted into dextrose and corn syrup, both of which have numerous consumer and industrial uses.

Uses Of Starch

Industrial

Adhesives	Batteries	Bookbinding
Cleaners, Detergents	Coatings on Wood, Metal & Paper	Crayons & Chalk
Dyes	Fireworks	Color Carrier In Paper & Textile Printing
Ethanol Fuel	Lubricants	Paints
Industrial Water Recovery	Ore Refining	Surgical Dressing
Molded Plastics	Rubber Tires	Oil Refining
Paper & Paper Products	Wallboard & Wallpaper	
Textiles		

Food

Baby Food	Baking Products	Beer & Ale
Canned Vegetables	Chewing Gum	Confectionery
Powdered Sugar	Pancake & Waffle Mixes	Flours
Mustard	Puddings & Custards	Salad Dressing
Soups		

Drugs and Cosmetics

Antibiotics	Aspirin	Body Lotion
Drug Coatings	Lipstick	Facial Makeup
Facial Masks & Cleansers	Pharmaceuticals	Soaps & Cleansers

Sweeter.

It's a natural sweetener in our foods & Drinks.

Healthier.

It's a natural ingredient in our vitamins.

Stronger.

It's protein in our pet's food.

Friendlier.

It's in biodegradable plasticware.

Softer.

It's in our hand & body lotions.

Cleaner.

It's an ingredient in our household cleaning products.

Safer.

It helps to reduce pollutants in fuel.

Dextrose

Dextrose is a pure crystalline sugar that is created in a reaction between corn starch and an enzyme. In addition to its food uses, dextrose has many pharmaceutical and industrial uses as well. Dextrose, often referred to as corn sugar, is less sweet than sucrose, common table sugar.

Uses Of Dextrose

Industrial

Acids	Adhesives	Dyes
Electroplating & Galvanizing	Enzymes	Biodegradable Plastics
Leather Tanning	Lysine	Mannitol
Paper	Rubber	Textiles
Threonine	Tryptophan	Amino Acids

Food

Bakery Products	Beer & Ale	Canned & Frozen Berries
Carbonated Beverages	Caramel Color	Citric Acid
Catsup	Chocolate	Cordials, Liqueurs & Brandy
Citrus Juices	Condensed Milk	Ice Cream
Doughnuts	Flavoring Extracts	Seasonings
Fruit Juices	Gelatin	Yeast
Jams, Jellies & Marmalade	Peanut Butter	
Vinegar	Wine	
Xanthan Gums		

Drugs

Antibiotics	Gelatin for Drug & Vitamin Capsules	Intravenous Injections
Sorbitol		

Tastier.

It's the natural cooking oil in our favorite foods.

Smoother.

It's in our cosmetics.

Corn Syrup

Like Dextrose, corn syrup is created by processing corn starch with acids or enzymes. It is a popular sweetener in foods. Due to its properties, corn syrup also finds its way into many industrial and medical products, in either its liquid or dried form.

Uses Of Syrup

Industrial

Dyes & Inks	Metal Plating	Paper
Plasticizing Agents	Rayon	Shoe Polish
Textiles	Theatrical Makeup	

Food

Baby Foods	Bakery Products	Beer and Ale
Canned Fruits & Vegetables	Carbonated Beverages	Cereals
Condensed Milk	Desserts	Frostings & Icing
Ice Cream	Maple Syrups	Marshmallows
Peanut Butter	Snack Foods	Frozen & Dried Eggs

Solubles

Solubles are made from the water that the corn is softened in during the milling process. This steepwater is useful in the production of: Antibiotics, Chemical, Pharmaceuticals, Yeast.

Uses Of Solubles

Industrial

Chemicals & Insecticides	Paint & Varnish	Rubber Substitutes
Rust Preventative	Textiles	

Food

Cooking Oil	Lecithin	Margarine
Mayonnaise	Salad Dressing	Snack Foods

Drugs and Cosmetics

Antibiotics	Soap	Vitamins
Yeast		

Gluten & Hulls

Gluten, an elastic protein, and the removed outer hull of the corn kernel can be ground into gluten meal. Gluten meal is protein rich, and is used as animal feed. It is nutritious for both livestock and pets.

Germ

The germ can also be ground into meal, and makes an excellent animal feed. About 25% of the germ is corn oil, which has food, drug and industrial uses. Germ can also be ground into nutritious animal feed.



As you can see, corn touches our everyday lives! Corn, Making the difference in the products we love.