

## Chapter 1: Popcorn and Other Types of Corn

Many people will ask the question. "What do you do to make corn Pop? The quick reply is "Heat it". What many do not realize is that popcorn is a particular kind of corn, only popcorn will pop. Other types of corn can be puffed with special mechanical processes but only Popcorn or a close relative can be popped on its own without special equipment.

There are basically six kinds of corn which fall into two basic groups, Soft or Hard. This is determined by the amount of hard or soft starch contained in the corn kernel. The most common soft corn is Dent corn and it has many uses. From making baby powder, Tortillas, breakfast cereal, and cattle feed to making ethanol used to improve the performance of gasoline. Other soft corns are Sweet Corn and Flour Corn.

Popcorn falls into the category of Hard, or Flint corns. The multi colored corn seen in the fall of the year and often called Indian Corn is a flint corn.

Popcorn is a form of flint corn and is different from dent and other soft commercial corn varieties in two ways. The first is that it is almost entirely hard starch. The second is that it has a very hard pericarp that permits the internal pressure and temperature to rise high enough to pop.

### **Hybrid Popcorn and Popcorn Properties**

The Popcorn that is grown today is almost always a Hybrid. Hybrids are the result of two or more basic types of corn that are combined to obtain or exaggerate certain desirable characteristics.

#### **Hybrid Selection**

Within the popcorn family there are many different hybrids. These are obtained by cross breeding different strains of popcorn to emphasize specific characteristics in the corn after it is popped. Some of these characteristics are:

- \* kernel size
- \* kernel shape
- \* kernel texture

There are several varieties or Hybrids of commercially available popcorn, the primary groups are, yellow and white. There are also some novelty products such as black and miniature popcorn.

Yellow popcorn is the most common used for commercial applications. The kernels are rounded in shape and have a medium brown color. Within this group there are several options available to the buyer. Kernel sizes are defined as small, medium, and large. The shape of the popped kernel is also affected by hybrid. Most corn when it pops takes on an irregular shape and is referred to as "Flake" popcorn. Other hybrids take on a more rounded shape and are referred to as "Ball", or "Mushroom" corn.

White popcorn is a small white grain that looks similar to a grain of rice. Some specific hybrids use the names "Baby Rice", "Japanese Hulless", or "White Hulless". The pericarp on this grain is thinner than other hybrids and when popped is not as noticeable when eaten. When this hybrid is popped the popped kernels are very white, small in size and very tender. Due the fact that this hybrid is so tender and fragile it is used almost exclusively in the home. When used in commercial applications there is excessive breakage.

Flake corn is used in most applications and Mushroom is used for the production of sugar coated or caramel corn. The Mushroom kernels have fewer small protrusions to break off in the relatively rough handling that occurs in the caramel coating process

#### **"Hull-Less" Popcorn**

Hull Less popcorn is not true popcorn. Hull-Less popcorn is usually produced using a conventional corn

meal extruder and altering the shape of the product to resemble the irregular popcorn kernel. The extruded product is then coated with oil or Caramel and marketed as "Hull Less" Popcorn.