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UNITED STATES DEPARTMENT OF AGRICULTURE
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Potato Chips

Results of experimental studies show that the following varieties of potatoes are the most desirable for chip making: Green Mountain, Russet Burbank (hotted Gem), Charles Downing (Idaho Rural), Irish Cobbler, Early Ohio, Dakota Red, and Rural New Yorker (smooth). The potatoes should not be kept in storage below 40° to 50°F. immediately before use, or the sugar content will increase, making the potatoes undesirable for use for chips.

Unpared potatoes may be used for frying, if the potatoes are mature enough for the skin to be set. The potato slices need not be soaked unless the potatoes are withered. However, unless a fryer is used that permits the potatoes to be sliced directly into the fat, the slices should be washed to remove the starch to prevent them sticking together. If the potato slices are not to be used immediately they should be covered with water to prevent discoloration. Prolonged soaking (1 to 2 hours) gives a crisper product but there is loss of potato flavor.

The potato slices should be dried thoroughly before frying. In the home this may be done between absorbent paper or towels. For large quantities of slices a whirling dryer much like that used in laundries has been found to be satisfactory. The wetter the potato slices are when immersed in the fat, the more rapidly the frying fat will deteriorate.

High grade vegetable oils, such as peanut, cottonseed, and corn are most satisfactory for frying potato chips. They are bland in flavor, have high smoking points and because of their low congealing points give a bloom or luster to the chips that cannot be obtained with the solid fats.

The initial temperature of the fat used for frying will depend upon the composition of the potato, particularly its sugar content, the proportion of potatoes to fat and the temperature and wetness of the potatoes. If the potatoes contain a large amount of sugar and a high frying temperature is used the chip will become too brown before it is crisp. Operating temperatures of 300° to 350°F may be used with success depending upon the composition of the potato. The chips are fried until bubbling ceases on the surface of the chip. This indicates that the major part of the water has evaporated and the chip should be crisp. The chips should be golden yellow in color.

The oil used in frying should be filtered occasionally to remove finely divided particles whose presence cause more rapid deterioration of the fat. The volume of chips cooked will determine the frequency with which the oil should be changed. All the oil should be discarded at intervals instead of adding fresh oil from time to time. Foaming, discoloration, smoking, and poor flavor of the chips are indications that the oil needs changing. When not in use the fat should be stored in a cold place away from the light.

Studies of packaging of potato chips show that chlorophyll-green glassine bags will keep potato chips from becoming rancid longer than the clear or opaque bags when the material is exposed to strong sunshine or strong light.



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