containing nothing but the ground and bolted seed is now found in the market.

CAYENNE PEPPER.

Cayenne pepper consists of the ground pods of the several species of Capsicum. It is said to be adulterated with brick dust, red lead, and coloring matters. Yellow corn, tumeric, ground rice and red ochre have been found in it.

GINGER.

Ginger is the powdered root of a tropical plant, Zingiber officinale. Owing to carelessness in the preparation of the root, a large number of qualities and varieties are found on the market. The adulterations are the addition of flour or starch, coloring with tumeric. Mustard hulls and cayenne pepper have been found. Perhaps the most common adulteration is the addition of exhausted ginger, the refuse left from the manufacture of ginger extract. This adulteration has the appearance of the genuine article but lacks its flavor and pungency. Only a careful chemical analysis will show the adulteration.

CLOVES.

The flower buds of the clove dried and ground, constitute the spice. The flavor is due to a volatile oil which they contain. This oil being an article of commerce is extracted and the spent cloves remaining are largely used for adulteration. Clove stems and pimento are also added. Pimento has a clove-like flavor but is much inferior. Its price is less than one-fifth that of cloves. The addition of the coarser adulterants is not common.

CINNAMON AND CASSIA.

These spices are ground barks of several species of the genus cinnamomum. The barks vary greatly in appearance and quality. The cassia, although inferior to cinnamon in flavor, is frequently substituted for the finer flavored and higher priced cinnamon. Exhausted cinnamon is also used.
In one case the sweet taste of the exhausted cinnamon was made up by the addition of sugar.
Poivrette (ground olive stones) was also found.

**ALLSPICE.**

Allspice is one of the cheaper spices, but its low price does not prevent its adulteration. Exhausted cloves, clove stems, corn and ground shells have been found.

The results of the above analyses only confirm the results found in other parts of the country.

Spices found on the market are enormously adulterated. Over 200 samples have been gathered from various parts of the state. We have been able to examine but a few of each kind and therefore a detailed analysis is not included in this report. As soon as the samples on hand have been investigated a circular will be issued from the office of the commissioner which will give a comprehensive statement of adulteration in spices.

Respectfully yours,

F. G. SHORT,
*State Chemist.*