

COCOA.

Cocoa is the bruised seed of the tree *Theobroma cocoa*, cultivated chiefly in the West Indies. Simply bruised, the seeds constitute the cocoa of the shops; reduced to a paste, mixed with sugar and flavoured with vanilla, they become chocolate. These articles are said to be adulterated in many instances to a great extent, but as the detection of the adulteration requires an intimate knowledge of the properties of the genuine nut, and of the matters usually mixed with it, it is attended with considerable difficulty. The most pernicious ingredients said to be mixed with this otherwise grateful and nutritious aliment, may however be discovered by simple analysis.

To detect mineral substances or earthy matter in cocoa—Incinerate, that is, burn to ashes, an ounce of the suspected cocoa, and weigh and test the ashes. If chalk or carbonate of lime be present, an effervescence will ensue on the application of a mineral acid. If the presence of any of the red earths be suspected, as these all contain iron, the ash should be tested for this metal, for which purpose it should first be treated with hydrochloric acid, this should afterwards be diluted, and the proper re-agents applied. Another mode of treatment, recommended by Dr. Normandy, is to grate 500 grains of the suspected article, into as fine a powder as possible, and throw it into about half a pint of cold water, stir the whole briskly for about ten minutes, leaving it at rest for about two minutes, and decanting the supernatant liquor. The earthy matter will then have subsided and will be left as sediment.

The presence of animal fats with which cocoa and chocolate are frequently adulterated, may be detected by the palate; for the chocolate generally has in this case a cheesy or rancid flavor, altogether different from the flavor of the genuine article. By exposing the suspected article to the atmosphere for a few days the fatty matter will become rancid.

PEPPER.

PEPPER, is the berry of various kinds of plants which grow principally in India, Java, and the Eastern Islands. The difference between Black Pepper and White Pepper is, that the latter has been divested of its outer coating by blanching, and is consequently much less pungent and strong than black pepper. These articles, when ground, are frequently adulterated with ground oil cake, linseed meal, rice, and other like substances.

The presence of adulterating ingredients in Ground Pepper may frequently be detected by the use of a microscope; but before we can make