



### **Plywood:**

Glue made from cassava starch is a key material in plywood manufacturing. The quality of plywood depends heavily on the glue that is used.

### **Paper:**

Modified cassava starch is used in the wet stage of paper making to flocculate the pulp, improving the run rate and reducing pulp loss. Native and modified cassava starches are also used in the coding and sizing of paper, improving the strength, binding codings to the paper, and controlling ink consumption to improve print quality.



### **Textiles:**

Cassava starch is used in three stages of textile processing: sizing the yarn to stiffen and protect it during weaving, improving color consistency during printing, and making the fabric durable and shining at finishing.



### **The future of cassava**

In the future, modified cassava starches that are specially formulated for individual applications will continue to find new uses.

Whenever you use cassava in your product, you will be assisting in diversifying the economy and improving the livelihood of millions of poor farmers and rural processors. Nigeria, the world's largest producer of cassava, has to take urgent steps to develop the utilization of cassava and so sustainably commercialize the crop.

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# **Cassava, the multipurpose crop**



IITA integrated cassava project. 2005. Cassava, the multipurpose crop flyer. Designed and printed at the International Institute of Tropical Agriculture Ibadan, Nigeria.

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**C**assava is known by various names in Nigeria. To mention a few, the plant is called *akpu* in Igbo, *ege* in Yoruba, *igari* in Ika, *rogo* in Hausa, *ijiakpu* in Olukwumi, *midaka* in Urhobo, *iwa* in Annang/Ibibio, *okponkoro* in Ijaw, and *bobози* in Ishan. Nutritionally, cassava contains potassium, iron, calcium, vitamin A, folic acid, sodium, vitamin C, vitamin B-6, and protein, all vital in the human diet.

Cassava can be used in many types of products such as food, confectionery, sweeteners, glues, plywood, textiles, papers, biodegradable products, also in the manufacture of monosodium glutamate and medicines. Dry cassava chips and pellets are used in animal feed, and in the production of alcohol.



**Ethanol:**

Cassava chips are an alternative source of raw material for producing alcoholic drinks as well as medical and industrial alcohol.

**Livestock feeds:**

Cassava roots can be processed into chips and pellets which are mainly used in animal feed for cattle, sheep, goats, pigs, poultry, and farmed fish. The cassava leaves are also a good source of feed for livestock.



**Food:**

Cassava is used widely in Nigeria as food. Cassava leaves are very high in protein and are consumed as a vegetable in some parts of Africa. The roots are mostly consumed in the form of *gari*, *fufu*, *tapioca*, *starch*, *kpokpogari*, and *lafun*. In the northern parts of the country, they are eaten as a raw snack. Cassava flour is mainly used in bakery products and cassava starch can be used as a general thickening agent. Modified cassava starch or starch derivatives have been used for thickening, binding, texturing, and stabilizing a range of food products such as canned foods, frozen foods, salad dressings, sauces, and infant foods.



**Confectionery:**

Modified cassava starch or starch derivatives are used in confectionery for different purposes such as thickening and glazing. Cassava starches are widely used in sweets such as jellies and gums.



**Monosodium glutamate:**

Cassava starch is a common source for making monosodium glutamate in Asia. It is used to enhance flavor in food, e.g., Ajinomoto.

**Sweeteners:**

Glucose and fructose made from cassava starch are used as substitutes for sucrose in jams and canned fruits. Cassava-based sweeteners are preferred in beverage formulations for their improved processing characteristics and product enhancing properties.



**Pharmaceutical products:**

Native and modified cassava starches are used as binders, fillers, and disintegrating agents for tablet production.

**Glues:**

Cassava starch is a very important raw material in making glue. Cassava starch-based dextrates are excellent adhesives and are used in many applications including pre-gummed papers, tapes, labels, stamps, and envelopes.



**Biodegradable products:**

Cassava starch can be used as a biodegradable polymer to replace plastics in packaging materials.