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BIOETHANOL FUEL ADDITIVE



Cassava (David Monniaux, CC BY-SA 3.0)

Bioethanol facility (Jenette007, CC BY-SA 4.0)

BIOETHANOL

The alcoholic fermentation transforms sugar, starch and cellulose-containing biomass into alcohol by means of yeast bacteria or fungi, which is subsequently distilled or rectified to meet an alcohol contents of 95%. In subsequent adsorption processes, the remaining water fraction of the crude alcohol is removed (dehydration). Thus a purity of the alcohol of up to 99.95% is reached.

ENERGY CROPS FOR BIOETHANOL PRODUCTION IN VIETNAM

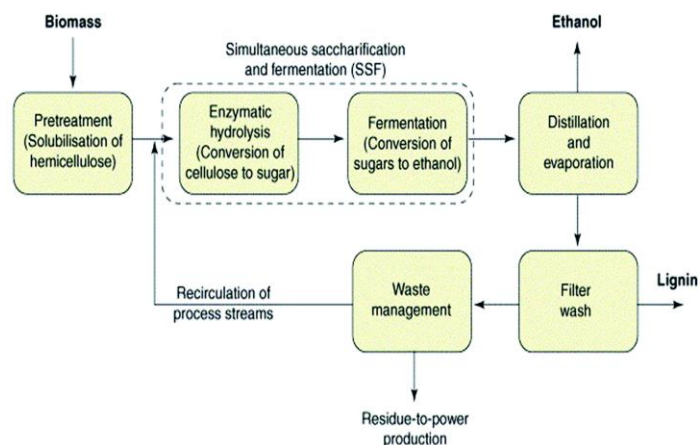
Cassava is the most important crop for the Vietnamese bioethanol production. It is used as feedstock in most of the bioethanol factories in Vietnam. In addition, sweet sorghum bicolor can also be used.

Sorghum has higher cultivation costs than cassava, but has a cost advantage due to higher space-time-yields. Sucrose, glucose and fructose in sweet sorghum are directly fermentable, so that no breakdown of starch into sugar is necessary, which facilitates processing into biofuel. Due to rapid degradation of sugar after harvesting, fast processing should be ensured.

TECHNOLOGIES FOR BIOETHANOL PLANTS IN VIETNAM

In Vietnam about 10 small-scale pilot plants and about 6 medium to large-scale plants can be found. Among the bioethanol plants, input capacity ranges from 170.000-300.000 tDM.

The following picture gives an overview over the processes of bioethanol production:



[HTTP://PUBS.RSC.ORG/EN/CONTENT/ARTICLELANDING/2015/RA/C5RA12735A#DIVABSTRACT](http://pubs.rsc.org/en/content/articlelanding/2015/ra/c5ra12735a#divABSTRACT)

APPLICATIONS OF BIOETHANOL

Bioethanol can be utilised as an admixture to gasoline (E5 and E10). The number added to the "E" indicates how much volume of ethanol was added to the gasoline.