

ABSTRACT

Within the framework of a program against poverty for the indigenous population experiments of storage of foodstuff were carried out at the Estación Experimental Chaco Central in western Paraguay. Beans maize und groundnuts (with und without shell) were stored in plastic drums and sacks.

The following conservation methods were compared:

- treatment with phosphin, ash, castor oil, groundnut oil, castor oil plant kernel, pepper, sand and fumigation with bean shells.

Following parameters were measured:

- attack (by insects and mould), humidity, mass of thousand kernels, germination, free fat acids, aflatoxin (for groundnut), temperature und air humidity

A sensory test of the stored foodstuff was carried out by the target group the indigenous population, it was analyzed chemically and the attacking insects were classified.

For maize and beans storage in drums was better then in sacks. For most of the treatments their was no clear effect visible, for a untreated control leaving better than most of the treated samples. For the storage of beans in sacks the treatment with 8 ml / kg groundnut oil or fumigation is advised. If there are no drums available for maize storage with 8 ml/kg of oil, ash (1:2) or sand is recommended. If possible groundnut should be stored with shell due to a lower insect attack compared with shelled groundnut. Here treatments with groundnut oil and ash (1:9) lead to the best results. A possibility that helps to minimize cost for room and drums is the storage of fumigated groundnut kernels. The final results are comparable to those of unshelled groundnut. No correlation between visible mould attack and aflatoxin values could be seen neither for measured humidity of foodstuff and insect attack.