

CURRENT STATUS OF CONTROLLED ATMOSPHERE STORAGE IN NIGERIA

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Controlled atmosphere storage of food crops was introduced into Nigeria in 1978 in a cooperative agreement between Snamprogetti/Assoreni of Italy and the Nigerian Stored Products Research Institute (N.S.P.R.I.). Collaborative research between Assoreni and N.S.P.R.I. during the years 1979 to 1981, and by N.S.P.R.I. from 1982 to date at experimental, pilot, and commercial levels has shown that this technology, using nitrogen, gives excellent results in preserving the quality of dry grains during long-term storage under Nigeria's ambient conditions. Special features observed included the elimination of moisture condensation (leading to large-scale losses when conventional metal silos are used for grain storage in the humid tropics with wide diurnal temperature differences), protection of operators from hazards of toxic chemicals, absence of chemical residues in crops stored, elimination of insects from the grains without using chemicals, reduction of fungal load on the crop, longer retention of seed viability than in normal ambient storage, longer retention of biochemical quality and maintenance of organoleptic quality of the grains during storage.

Yellow maize, sorghum, rice and cowpea retained their quality after storage for over four years. The technology was also shown to be effective in preserving the quality of cocoa, an oilseed and a major cash crop in Nigeria. Work on groundnuts, another oilseed, has also started.

Controlled atmosphere technology has now been developed to a level where it can be used commercially for long term grain storage in Nigeria.

