

HISTORY OF THE DEVELOPMENT OF THE FIRST MECHANIZED CONTINUOUS GARI MANUFACTURING PLANT

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SUMMARY

After reviewing various endeavours to manufacture gari in factories, the main characteristics of a factory in Gambia are described. This is claimed to offer the best and most economic means available to produce this staple food of West Africa. The factory line comprises of an eccentric drum peeler, trays for hand sorting of peeled roots, and a horizontal hammer mill. The mash is then pumped into 1 ton, low-density polyethylene vats for fermentation. The fermented mash, contained in nylon bags, is dewatered in hydraulic presses and the dewatered mash is dried in a cascade type rotary drier. The process designers, Newell Dunford, are constantly improving their process and can offer complete systems.

RESUME

Après avoir passé en revue les divers efforts pour fabriquer du gari en usines, les grands traits d'une usine en fonction en Gambie ont été exposés. Celle-ci, pense-t-on, offre les meilleurs moyens économiques disponibles pour produire cette denrée propre à l'Afrique occidentale. L'usine se compose d'une éplucheuse excentrique à tambour, de plateaux pour dégager manuellement les racines épluchées et un moulin horizontal. Puis la pâte est versée dans un tonneau, des cuves polyéthylènes à basse densité pour la fermentation. La pâte fermentée, contenue dans les sacs en nylon est asséchée dans des presses hydrauliques et séchée dans une sorte de séchoir rotatoire à cascade. Newell Dunford, compagnie qui a mis au point le procédé, l'améliore constamment et peut en faire un système complet.

RESUMEN

Se describen las principales características de una planta de manufactura de gari en Gambia, después de revisar varios intentos hechos previamente. Se dice que ella ofrece los mejores y mas económicos medios para producir este alimento de consumo básico en Africa Occidental. La línea de operación de la fábrica incluye un tambor descortezador excéntrico, bandejas de clasificación manual de la raíces descortezadas y un molino horizontal de martillo. La masa es entonces bombeada a tinajas de fermentación de 1 ton, hechas de polietileno. La masa fermentado, contenida en bolsas de nylon se deshidrata en prensas hidráulicas y se seca en un secador rotatorio de tipo cascada. Los diseñadores del proceso, Newell Dunford, lo mejoran constantemente y pueden ofrecer sistemas completos.

INTRODUCTION

The original test work that led to the development of the gari plant was supervised by Mr. J.G. Purcell of Newell Dunford Engineering more than fifteen years ago. Roots were air freighted from Nigeria and the first preliminary tests were carried out at our Research and Development Department. The rapid deterioration of the roots made the work very difficult, but sufficient test information was obtained for a combined garifier/dryer of the rotary louvre type to be designed.

The first garifier/dryer was built and supplied to the Federal Institute of Industrial Research, Oshodi, Nigeria in late 1959, and after initial minor technical difficulties, an economic investigation was undertaken over a three month period in late 1961, running the plant on a semi-continuous basis.

In reports on this trial^(3,4,5) it was concluded that, although good quality gari had been produced, it had been difficult to obtain the quantity of cassava roots required at a reasonable price. It was suggested

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