Various Egusi Melon Seeds existing in Southwestern Nigerian Markets

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ABSTRACT

Egusi is a common name for oil rich seeds of Egusi melon used mainly as soup condiment. The medium sized usually comes to mind anytime the name egusi is mentioned. But there exists a variety of crops in family Cucurbitaceae used for same purpose which is not commonly known even among the elites in Crop Science in Nigeria and beyond. In the course of a research on egusi, different types of seed forms were identified. There were six different types of egusi kernels (bojuri, itoo, serewe, igbaa, bara and wewe) based on size, colour and type sold in Nigerian markets; however, bara and serewe were the most common types of egusi found in Nigeria.

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INTRODUCTION

Egusi is botanically known as *Colocynthis citrullus* L. (Van der Vossen *et al*., 2004). It is a member of the Cucurbitaceae family. Egusi is a crop cultivated mainly for the seeds which is rich in protein, fat, carbohydrates and contains good quantities of most of the essential amino acids (Ayodele and Salami, 2006). Its major use is as a staple of many local diets. In West Africa, the seeds are made into pulp and added as a thickener to soups. They are also soaked, boiled, fermented and wrapped in leaves to form a favourite local food seasoning called 'ogiri' in Southeast Nigeria or they are roasted, pounded, wrapped in leaves and then boiled to produce another sweetener called 'igbalo' (Oluba *et al*., 2008). The largest producers of egusi seed are West and Central Africa, but with limited statistics. Egusi is not only valuable for local consumption, but also as export commodity to sell to people who have emigrated from Africa to other continents (Van der Vossen *et al*., 2004).

Egusi melon is produced in abundance in Southwest, Southeast and Central parts of Nigeria. It is an important food crop in many sub-Saharan African countries. In Nigeria, it is cultivated as an increasingly important cash crop. Egusi is easy to grow in Nigeria's warm climate during the beginning of the rainy season and harvested at the onset of the dry season (Van der Vossen *et al*., 2004; Brisibe *et al*., 2011).

C. citrullus originated from the western Kalahari region of Namibia and Botswana, where it still exists in the wild in a diversity of forms together with other *Citrullus* species. The most common egusi has fruits that are generally bitter and mainly sought for their seeds, which is the probable ancestor of egusi. Presently, people in Namibia and Botswana still harvest most of their seeds from the wild, but some landraces have been selected specifically for their oil-rich seed (Van der Vossen *et al*., 2004).

The largest producers of egusi seed are West and Central Africa, but with limited statistics. The world production of egusi seed in 2002 was reported as 576,000 tonnes from 608,000 ha (FAO, 2003). Egusi production in Nigeria amounted to 347,000 tons from 361,000 ha, Cameroon produced 57,000 tons, Sudan 46,000 tons, Congo 40,000 tons, Central African Republic 23,000 tonnes and Chad 20,000 tonnes (FAO, 2003). Outside Africa, China is an important producer with a production of 25,000 tonnes. An estimated 5000-7000 tons is traded from Nigeria to other West African countries. Sudan exports about 27,000 tons, mainly to Arab countries; however, these quantities fluctuate strongly yearly (FAO, 2003; Van der Vossen *et al*., 2004).

Generally in Nigeria, there are two major types of egusi that comes to the mind of the people when egusi is mentioned. There has been controversy in the nomenclature of these commonly known egusi types. However, *Colocynthis citrullus* L. appears to be more generally accepted scientific name for the two well-known egusi types (Bara and serewe) and hence the name refers.

The two major seed types are medium sized, and can be differentiated by the presence or absence of a seed edge. The two major types are referred to as 'bara' (yellow with prominent thick seed edge which is either black or white in colour) and 'serewe' (yellow all through without pronounced seed edge) in Yoruba dialect (Kehinde, 2011; Bankole and Joda, 2004; Van der Vossen *et al*., 2004; Bankole *et al*., 2005). The other four are close relatives of egusi (Egunjobi and Adebisi, 2004) which are used for cooking just like the two major/common types. So far these close relatives of egusi are characterized based on the seed type, size and seed coat colour (Ayodele and Salami, 2006; Chiejina, 2006; Achigan-Dako *et al*., 2008) as summarized in Table 1.

The small seeds designated 'N' have uniform yellow colour, while large seeds designated 'E' have white edges. 'E' and 'N' are morphotypes of the 'Serewe' and 'Bara' respectively (Ayodele and Salami, 2006). The medium sized type is classified as *C. citrullus,* the large seeds, that is, 'E' is classified as *C. vulgaris* while the small seeds, i.e. 'N' are classified as *C. lanatus* (Thunb).

Table 1: Different egusi types from South Western States of Nigeria and their description

S/N	Local	Scientific name	Seed type	Seed Size	Seed coat colour
1	Bara	*C. citrullus,*	thick edge (black/white)	Medium size	Yellow/brown
2	Serewe	*Colocynthis citrullus,*	with no prominent white edge	Medium	Yellow with thin white edge
3	N (Wewe)	*Colocynthis lanatus*	Uniformly yellow	Small	Yellow
4	Bojuri	*Colocynthis vulgaris*	Thick seed coat	Large	Light brown
5	Igbaa	*Cucumeropsis mannii*	with brown patch at the seed base	Large	Yellow with brown patch at the seed base
6	Itoo	*Not yet determined*	Uniformly white	Large	White

The seeds of *C. vulgaris* are the largest in size followed by those of *C. citrullus* and the least are those of *C. lanatus*. *C. lanatus* is less than 1/6 the size of *C. vulgaris* and about ¼ that of *C. citrullus* (Chiejina, 2006). *Cucumeropsis mannii* Naudin (syn. *Cucumeropsis edulis* (Hook.f.) Cogn.), said to be the true egusi is also used as egusi (Achigan-Dako *et al*., 2008). However, the production of *C. mannii* is strongly declining nowadays and is being continuously replaced by other egusi species; this could be attributed to the long cropping cycle of this species which covers seven to eight months (Egunjobi and Adebisi, 2004).



Plate 1. Different types of egusi with their corresponding kernels and seeds from different states of Nigeria.

Only Bara and serewe (*Colocynthis citrullus*) are technically called Egusi melon. Bojuri (Colocynthis vulgaris) is also commonly called egusi. N (Wewe) (Colocynthis lanatus) is commonly called Water melon From left Bara from Niger, Wewe from Adamawa, Serewe from Nasarawa, Itoo from Oyo, Bojuri from Kebbi, Igbaa from Oyo,

In the course of research, as many as six different types of seed forms used for the purpose as the two common seed types were discovered. All belonging to the Cucurbitaceae family and are all oil producing. There were six different types of egusi kernels (bojuri from Kebbi, itoo from Oyo, serewe from Nasarawa, igbaa from Oyo, bara from Niger and wewe from Adamawa) sold in Nigerian markets (Plate 1). However, the "bara" and "serewe" types were the most common types of egusi found in Nigeria.

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