



Agribusiness in Sustainable Natural  
African Plant Products

## Grains of Paradise

**Botanical Name:** *Aframomum meleguetta* K. Schum.

**Family:** ZINGIBERACEAE

**Commercial name:** Grains of Paradise, Guinea Pepper, Alligator Pepper

**Local Names:** Meleguetta pepper, Fomwisa, Wisa, Apokuo, Efom Wisa, Obro (Yoruba), Chitta (Hausa)

### Background and Uses

Meleguetta pepper or Aframomum is a spice native to tropical West Africa. In the 13<sup>th</sup> Century, traders from West Africa carried the spice across the desert to sell in Tripoli and then Italy. The Italians called it “Grains of Paradise” because of the high value of the product, and the secrecy of the country of its origin. Europe acquired a taste for the spice as a substitute for real pepper (Enti, 1988). In England during the reign of Queen Elizabeth I, many foodstuffs and drinks were flavored with Grains of Paradise along with other spices such as cinnamon and ginger. While its popularity in Europe declined over time, its use in West and North Africa continues. In North Africa, the extract of the pepper, mixed with other ingredients like butter, honey, peanuts and almonds, was used in after-dinner coffee. The spice is also used to flavor rum and brandy. In Ghana, the seeds are widely used in spicing meat, sauces and soups and mixed with other herbs for the treatment of body pains and rheumatism.



**Figure 1.** *Aframomum meleguetta* plant with its purple flower (left) and fruits (right).

## **Traditional and Modern Medicinal Uses**

Traditionally, the seeds are chewed to cure dysentery, as a sedative against toothache, to guard against rheumatism and migraine and to cure fever. The spice is also used as a sexual stimulant. The rhizomes are used in the treatment of dysentery and diarrhea (Dokosi, 1998). *Aframomum* has been used in many herbal medicinal formulas. The seed is ground into a soft paste that had been shown antibiotic properties (Enti, 1988). The essential oil of *Aframomum* has exhibited activity against gram positive and gram-negative bacteria as well as *Candida albicans*. The essential oil appears to be more active against gram-positive bacteria than gram-negative types, and the oil based on water soluble cream gave higher anti-microbial activity compared to the cream based on oily. The oleoresin obtained from *Aframomum* contains volatile oil, which is rich in paradols, gingerols and shogaols (Ghana Herbal Pharmacopoeia). The acetone extract of Ghanaese grains of paradise contains hydroxyphenylalkanones (6)-paradole, (7)-paradole, and (6)-shoagole) in approximately equal parts.

## **The Ecology of Aframomum**

Meleguetta pepper is a tufted, leafy, herbaceous perennial. It has a short, scaly rhizome with a surface root system. The stem is 0.9 to 1.2 m high, covered by leaf sheaths up to 2 m in length. It has alternate and sessile leaves, continuing into a sheath of the stem. The large flowers are trumped shaped and pink and has a single stamen. The fruits are ovoid, in shape and tapers to a point, surrounded by a permanent calyx. The matured fruit is red in color and contains a white pulp that surrounds 1200 to 2000 seeds. Flowering begins in September and fruiting in December. The seeds are small (0.4 to 0.5 cm long), aromatic with grainy testa and white kernel. The seeds have a very hot taste (Dokosi, 1998).

## **Cultivation**

*Aframomum* is propagated by seed or by rhizome division, and cultivated as a monocrop. Division of rhizome is the preferred method. The plant could be successfully cultivated under cocoa plantations in warm humid areas and under partial shade. Pruning of the old dry leaves is crucial for better production of the plant. Seeds normally germinate between 7 to 12 days after nursing. Seedlings can be transplanted to the field after six to eight weeks. The first crop can be taken off nine to eleven months after planting. Under good management profitable yield can be obtained up to the tenth year of cultivation. *Aframomum* is harvested between February and June, when the pod changes color from green to red. Green pods contain pale brown immature seeds that do not have the characteristic flavor. Red pods, however, contain dark brown seed that are mature, with a pungent taste. Pods, containing seed are sun dried for about seven days. In Ghana, about 20 tons are produced annually. A yield of 0.5 to 1.5 tons per acre are typical.

## **References**

Dokosi, OB (1998). Herbs of Ghana. Ghana Universities Press, Accra

Enti, AA (1998). The Rejuvenating Plants of Tropical Africa. Ed. AK Andoh, FLS, The North Scale Institute, San Francisco

Ghana Herbal Pharmacopoeia (1992). The Advent Press, P O Box 0102, Osu, Accra

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