

# ETHIOPIAN KALE

*Brassica carinata*

Brassicaceae

## ECHO® BẢNG THÔNG TIN CÂY

### Miêu tả

This kale species originated in the East African plain, particularly Ethiopia, as early as 4000 B.C. where it is still grown primarily as an oil seed crop. It is valuable because it will set seed at warmer tropical temperatures than other Brassicas. In East and southern Africa, young leaves are eaten as a vegetable raw or cooked.

### Sử dụng

Crushed seeds yield a high oil content, 25-45%. However, older varieties and particularly wild plants, have high levels of two potentially toxic compounds - erucic acid and glucosinolates - in the oil. New varieties have been bred to have little or no toxicity. Leftover seed cake after oil extraction can be fed to animals, but in limited amounts. The leaves apparently do not have any toxicity.

### Tên Chung

- Tiếng Anh
  - Ethiopian Kale
  - Abyssinian mustard
  - African Cabbage
- Tiếng Pháp
  - chou frise de l'éthiopie
  - Moutarde d'Éthiopie
- Tiếng Tây Ban Nha Nhà kiều Cax-ti-le
  - Col Rizado Etiopie
  - Mostaza Etiopie
  - Mostaza Abisiniana
- Tiếng Xoua-hi-li
  - Sukuma ya kiasili

### Trồng trọt

- Elevation: Being cold tolerant, *Brassica carinata* can be successfully grown at higher altitudes than most leafy vegetable crops, up to 2600 m (8500 ft).
- Rainfall: *Brassica carinata* has a long taproot and a more extensive root system than any other Brassicas. Therefore, it only needs a moderate amount of rainfall, (600-1200 mm; 23-47 in) to produce a crop of leaves or seed, though irrigation does improve the leaf crop. In dry regions, the plant flowers earlier producing ripe seeds within 4 months of sowing.
- Soil types: Manure dug into the soil increases protein content and amount of leaf production. This kale will produce a crop in almost any soil except water-logged, or saline.
- Temperature range: 15-20° C (59-68° F) The tiny seeds germinate rapidly in moist garden soil or in pots either in partial shade or full sun. Seed may be broadcast or planted 35-40 cm (14-16 in) apart in rows 50-60 cm (20-24 in) apart.

### Thu Hoạch và Sản Xuất Hạt Giống

Leaves can be harvested from 35 days until 10 weeks, earlier being better for tenderness, re-growth and re-harvesting. Harvest the seed pods after 2 months when they begin to turn brown. Complete drying of the pods on sheets spread in the shade but protected from birds. Threshing and winnowing should follow before storage. The seeds can be stored for several years in dry, dark conditions.

### Sâu Bệnh hại

In Kenya, seeds are mixed with ashes before planting to reduce seedling disease. Pests include the diamondback moth and the Turnip Mosaic Virus which is transmitted by aphids. Varieties for oil production have a waxier leaf which seems to give some pest protection. Seed should be sown 5-6 weeks before the rainy season starts rather than at the start of rains as pest damage may be lessened.

### Nấu Ăn và Dinh Dưỡng

Leaves should be harvested just before eating as a cooked or raw vegetable. Even the stems when cooked have a mild flavor like collards or cabbage. Crushed seeds are eaten with meat. *Brassica carinata* is a nutritious vegetable, high in calcium and iron. Its leaves have less oxalic acid than spinach. Juice squeezed from the leaves is a good source of vegetable protein.

### Tham khảo

Mnzava, N.A. & Schippers, R.R., 2007. *Brassica carinata* A.Braun. [Internet] Record from PROTA4U. van der Vossen, H.A.M. & Mkamilo, G.S. (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands.

<<http://www.prota4u.org/search.asp>>. Accessed 15 May 2019.