GRAIN AMARANTH

Kiwicha, Bledo

Amaranthus cruentus, A. hypochondriacus Amaranthaceae

ECHO® PLANT INFORMATION SHEET

Origin

The cultivation of Grain Amaranths as food plants is traceable to ancient Aztec civilizations of Mexico. The Grain Amaranth species are highly variable; some experimentation with strains of available species may be necessary to find one suitable to a new area.

Uses

Grain Amaranths are grown primarily for the highly nutritious seeds; in addition, leaves may be eaten as spinach, and plant tips with attached leaves may be used as potherbs. Stems, stripped of leaves, may be peeled, cooked, and eaten much like asparagus.

Common Names

- French
  - amarante-grain
- Spanish
  - Grano De Amaranto
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- Haitian Creole
  - Amarant Grenn
  - Zepina Peyi

Cultivation

Grain Amaranth seeds can be direct seeded in the field or transplanted from seedbeds. The tiny seeds should be buried less than 1 cm (0.5 in) deep in finely tilled surface soil. Seedlings 5-8 cm (2–3 in) tall with 2-4 leaves may be transplanted; space transplants 15-25 cm (6-10 in) apart. Transplant early; delayed transplants mature slowly. Grain Amaranths are sun-loving, heat tolerant and grow best in fertile (compost- or manure-rich) soil. To be productive they require adequate moisture throughout the growing season but relatively dry conditions as the seed heads mature.

Harvesting and Seed Production

Grain Amaranth seeds may ripen irregularly, allowing for repeated harvests from some plants. Ripe seeds are soon shed; however, so check seed ripening frequently. Rub ripe seeds off the plant between thumb and fingers --- collecting the seeds and chaff in a container. Remove the chaff from the seeds (winnowing) by pouring the chaff/seed mixture from head height to floor level in a slight breeze. Repeated winnowing may be necessary. It is also possible to harvest the entire seed stalk at once by cutting off the plant top when most seeds are ripe and placing the top in a bag. Let the top air-dry in the bag in a sunny location. Many of the seeds will fall off into the bag; shaking and beating the bag will help dislodge other seeds.

Pests and Diseases

Caterpillars of moths and butterflies and other leaf-chewing insects may be serious pests on Grain Amaranths, rapidly devouring plant parts. Fungal species that attack young seedlings have produced problems on Grain Amaranths especially in rainy seasons. Seedbeds should be well-drained, placed in sunny locations, and protected from ants and termites that are known to carry away seeds.

Cooking and Nutrition

Grain Amaranth seeds are richer in protein and contain a better blend of amino acids for the human diet than the cereal grains. Their richer content of amino acids lysine and methionine complements the deficiencies of these amino acids in maize and other cereals. Some antinutritive substances have been reported in raw amaranth seeds. However, these substances become non-harmful when heated. Cooking or roasting of Grain Amaranth seeds is advised. Aztec civilizations often toasted or popped the seeds much like popcorn. Lightly toasting the seeds is recommended before milling if flour is to be made from ground seeds. Grain Amaranth hot cereal may be made by adding 45 mL (3 tbsp.) of seeds slowly to 80 mL (1/3 c.) boiling water, allowing the mixture to steam, covered, for 20-30 minutes. Small amounts of Grain Amaranth seeds or flour (approximately 1/8 of total) may be added to cereal grain food preparations giving some of it's nutty flavor and favorable nutritional components to the primary cereal.

Grain Amaranth leaves are rich in protein, vitamins A and C, and good sources of calcium and iron. The young leafy greens may be eaten fresh but five minutes in boiling water will remove harmful nitrates and oxalates found especially in the older leaves. Longer boiling reduces vitamin content. The water used in cooking the leaves should not be used for other food preparations.

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