# ECHO Asia Seed Fact Sheet

Scientific name – *Setaria italica*

English common name – Foxtail millet

Asian common names –

- Chinese: Liang, Xiao mi
- Japanese: awa, awami (grain)
- Nepalese: kaguno, kagunu, kaun, kauni
- Tamil: **அச்சித்தினை** accittingai, **செந்தினை** centingai, **தினை** tingai
- Thai: ข้าวฟ่างหางกระรอก khao fang hang krarawk
- Vietnamese: kê

*Photo: ECHO Asia staff*

General description and special characteristics – Foxtail millet is an annual grain with a deep, well-developed root system. A distinct benefit of foxtail millet is that it is one of the most water efficient, short-term, warm weather crops that can be used as a "catch" or "famine" crop, planted after another crop has failed due to hail, wind, or late frost. Although other grains produce higher yields, foxtail millet can be depended upon to produce two tons per acre of quality forage or a 9-13% protein grain with no addition of nitrogen fertilizer.

Crop uses (culinary) – As with other grains, foxtail millet can be ground for flour or as a beverage base, boiled for porridge, or the seeds can be roasted.

Crop uses (livestock production) – Foxtail millet is used as forage for livestock, such as sheep and cows. However, it should not be fed to horses as the only source of roughage because it may act as a laxative.

Seasons of production – In tropical Asia, foxtail millet grows best during the rainy season.

Length of production and harvest period – Harvesting for hay or silage can be accomplished in 65–70 days and for grain in 75–90 days. Its early maturity and efficient use of available water make it a suitable crop for dry areas.

Production methods – Foxtail millet needs full sun. The crop is established on a clean seedbed because millet seeds are very small. Millet is often hand broadcast, but can also be sown. Growth in the first two weeks is very slow and competition from weeds can be a problem. Plant in narrow rows to shade out weeds or cultivate frequently.

For forage purposes, foxtail millet can be cut for hay during the early heading stage when the foliage is still partially green. The crop does not have a habit of re-growing after being cut. Grazing of the crop after it is cut, windrowed, and left in the field eliminates the labor of harvesting, handling, and feeding to livestock.

For grain production as the primary crop, millet is often intercropped with sorghum, groundnuts, cowpeas, and okra. As the secondary crop in parts of Southeast Asia, millet is sometimes intercropped with upland rice. Harvesting of the mature grain is done by cutting off individual heads with a knife or sickle.

Plant spacing – If not broadcast, foxtail millet can be sown in rows spaced 30 cm (12 in) apart with hills spaced 15 cm (6 in) apart or closer.

Pollination – Self-pollinating, with an average cross-pollination rate of 4%.

Environmental conditions for production – Foxtail millet flowering is accelerated by short days (Evans et al. 1964) and the flowers open both late at night and early in the morning. However, short-day, day-neutral and long-day varieties occur throughout the world (Malm & Rachie 1971). It can be grown in mountains or plains up to 50º North Latitude and up to an elevation of 1,800 m (5,906 ft).

Soil requirements – Prefers sandy loam to clay loam soils. Millets are difficult to germinate on heavy clay soils.

Pests and diseases – Foxtail millet is an alternate host for a mite that transmits the virus that causes wheat streak mosaic. The virus does not affect the millet itself and new varieties have been bred to be non-carriers.

Seed saving – When grown for seed, the foliage should be uniformly brown and seed heads well-filled out before harvest. The upper stalk, including the heads, should be cut and dried in bunches upside down, out of direct sun until the very small seeds separate easily. Seeds, with a moisture content lower than 13%, should be stored in airtight containers in a cool, dry place.

References –

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