

Lecture 08

Small Millets

The grains of small millets are small in size, hence they are called small millets. The characters of small millets are hardy, drought, resistant, with little care it grows and gives some yield, can be grown in sub marginal lands also as a rainfed crop, mostly grown by hill tribes.

Fox Tail Millet - *Setaria italica* (2n:18)

Family: Poaceae

Foxtail millet is the most important millet in India especially in Tamil Nadu, Karnataka and parts of Maharashtra. It is next in importance to Sorghum and finger millet.

Botany

Annual grass; seminal roots three followed by numerous thin adventitious roots, culms erect, slender, internodes hollow, tillering; leaf sheath longer than internodes, ligulate; leaf blade linear; tip acuminate; mid rib prominent. Inflorescence spike like panicle, carrying 6-12 two flowered sub sessile spikelets each subtended by 1-3 bristles; stamens three; ovary with two long styles ending in plumose stigma; fruit caryopsis tightly enclosed by lemma and palea.

Center of origin: East Asia

Wild relatives

Setaria italica was probably derived from *S. viridis* a common weed in the old world. It seems that *S. italica* and *Panicum miliaceum* were among the first crops to be domesticated in central eastern Asia. They were widely spread throughout Asia and Eastern Europe in pre historic times.

Little Millet - *Panicum sumatranse* (*P. miliare*) (2n: 36)

Family: Poaceae

Botany

An annual tufted grass with slender culms, soft leaves, inflorescence a panicle with erect hairy branches; spikelets in pairs with two glumes; floret with two lemmas, two lodicules, three stamens and ovary with plumose stigma; fruit a caryopsis.

Centre of origin: W. Africa

Distribution : India, Sri Lanka, parts of China.

Barn Yard Millet- *Echinochola frumentosa* (2n: 36 and 54)

Family: Poaceae

Botany

A robust tufted annual grass; seminal roots followed by adventitious roots; stem smooth, glabrous, producing tillers; internodes hollow; leaf blade linear, lanceolate; tip acute; margin finely toothed. Inflorescence a panicle; spikelet two flowered, awnless, pedicellate, subtended by bristles, two glumes; lower floret sterile with lemma and palea; upper floret hermaphrodite, five nerved lemma and five nerved palea, two lodicules, three stamens, two distinct style with plumose stigma. Fruit a caryopsis enclosed in white shining hardened lemma and palea.

Center of origin: E.Asia

Barnyard millet originated either from *E. colona* or *E. crusgalli* and possesses characters intermediate between the two.

Proso Millet - *Panicum milliaceum* (2n: 36 & 72)

Family: Poaceae

Center of origin: Central Asia

Distribution : India, Africa, Europe, USA. China, Japan.

Botany

A shallow rooted erect annual grass, free tillering, internodes hollow, cylindrical; leaf lamina linear lanceolate. Inflorescence a slender panicle; spikelet with two florets with two glumes; lower floret sterile; upper floret fertile with lemma, palea, two lodicules, three stamens and two styles with plumose stigmas; fruit a caryopsis enclosed by persistent lemma and palea.

kodo millet - *Paspalum scrobiculatum* (2n: 40)

Family: Poaceae

Center of origin: India

Botany

An annual tufted grass; leaves in two ranks, stiff, erect. Inflorescence a panicle; 2-8 spikelets in flattened rachis; spikelets usually in two rows; each spikelet has two florets; lower floret sterile, upper bisexual with lemma, palea, two lodicules, three stamens and plumose stigma; grain enclosed in hard horny persistent husk which is difficult to remove.