

BULBILS IN *PENNISETUM POLYSTACHYON*

Bulbil formation in monocots was recorded by Davis in coconut palm (1948) and African oil palm (1959), by Cheeran (1964) in areca palm and by Shah (1963) in *Cyperus alternifolius*. Bulbils with roots were reported by Thomas (1961) in coconut palm.

Pennisetum polystachyon (thin or dry napier grass) is grown in the Agricultural College Farm, Vellayani, as a fodder grass. It is a hexaploid species ($2n=6x=54$) showing very high pollen sterility. The inflorescence is a terminal compact cylindrical spike. Spikelets occurring either in singles or in groups of two or three are borne on short rachilla subtended by a whorl of long bristles. An abnormal spike bearing bulbils in place of spikelets was observed in one plant.

The abnormal spike bearing bulbils was thicker than a normal spike (Figs. 1 & 2). The bulbils, occurring mostly in singles and rarely in groups of two or three were directly attached to the rachis and subtended by a whorl of long bristles. They were found to grow and increase in size with the ripening of the spike. When fully grown the bulbils had two to three well formed leaves (Fig. 3). At this stage the

bulbils along with the bristles were found to break off from the rachis.

The bulbils were completely rootless. The older ones were planted in soil but they failed to strike roots.

The formation of bulbils without roots at the position of spikelets therefore suggests that they develop by modification of the spikelets into vegetative buds.

References

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Agricultural College
Vellayani.

V. Gopinathan Nair
P. Kumara Pillai

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Bulbils in Napier Grass

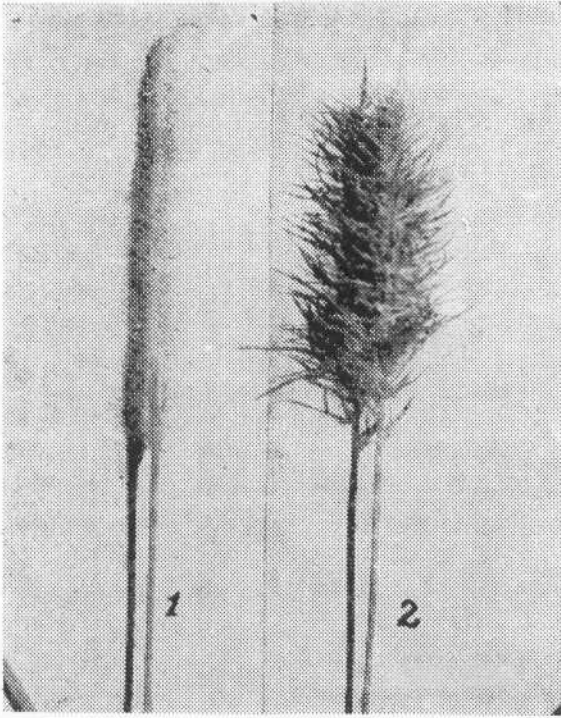
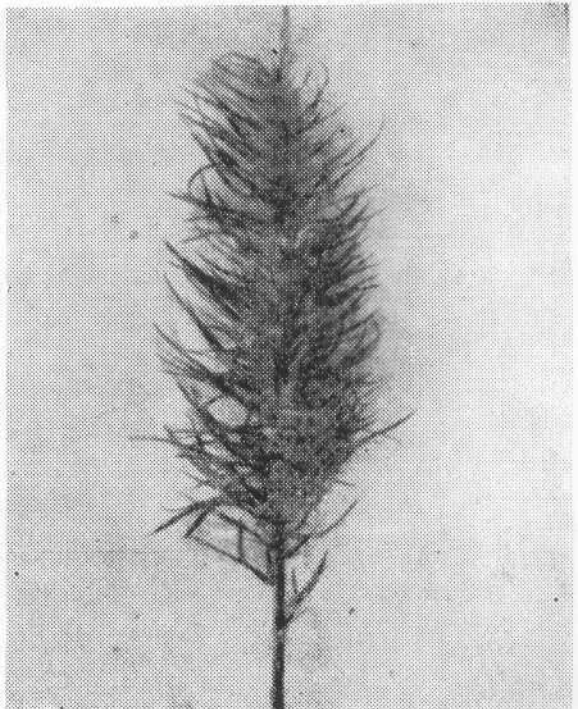


Fig. 1. Normal (1) and **bulbil-bearing** (2) spikes of *Pennisetum polystachyon*

Fig. 2. Bulbil-bearing spike, close view



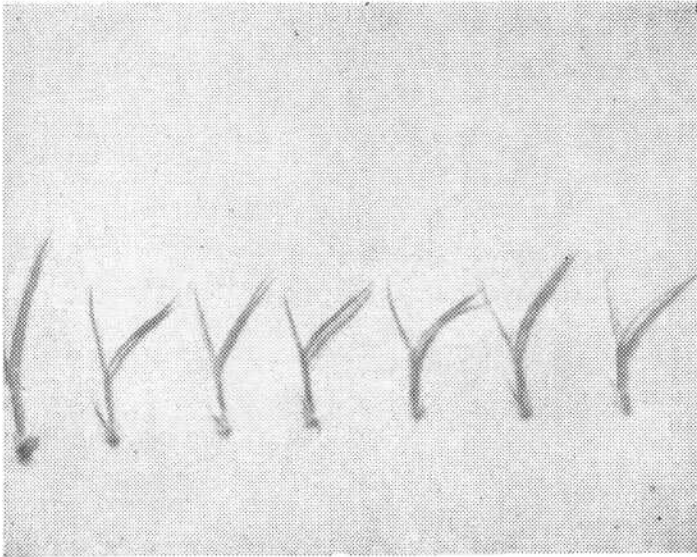


Fig. 3. Bulbils of *Pennisetum polystachyon* separated, showing well developed leaves