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## Effect of different priming methods on seed quality, biochemical changes and storability of China aster (*Callistephus chinensis* L. Nees)

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A laboratory experiment, "Effect of different priming methods on seed quality, biochemical changes and storability of china aster (*Callistephus chinensis L. Nees*)" was conducted at College of Horticulture, Dr. Y S R Horticulture University, Rajendranagar, Hyderabad during the year 2011-12. This experiment had two factors. The experiment consisted of two different ages of the seed viz., one year old seed  $(S_1)$  and half year old seed  $(S_2)$  and four treatments viz., hydro priming  $(T_1)$ , osmo priming  $(T_2)$ , halo priming  $(T_3)$ , unprimed as control  $(T_4)$  as another factor, which was replicated four times in completely randomized design with factorial concept. Seed samples were primed and kept in polyethythelene bag and stored for six months at ambient condition. The results emanated from the experiment revealed that, amongst the two different ages of the seed, six months old seed recorded maximum germination percentage, field emergence, speed of germination, seedling length, seedling dry weight and seedling vigor index and least was observed in one year old seed. Amongst the priming treatments, priming of seed with KNO<sub>3</sub> at 0.5% resulted in best performance of the seed regarding all the physiological and biochemical parameters followed by hydro priming. Unprimed seed (control) failed to exert any significant influence on the quality parameters. Storage of the treated seeds up to six months resulted in a gradual decrease in performance of the seed. However, storage of the six months old KNO<sub>3</sub> treated seed up to six months was found to be good compared to one year old seed regarding all the quality parameters.

#### Biography

Bathineni Vimala is working as Senior Research Fellow at Acharya N G Ranga Agricultural University, Hyderabad. Recently she completed M.Sc., Horticulture, earlier she worked in Kisan Call Centre clarifying the farmers' problems through phone. China aster is one of the important loose flowers as well as cut flower grown in Andhra Pradesh by many of the farmers, the viability of the seed was very less, to improve the viability of seed the above work has been taken up.

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### Modification of manually operated chaff cutter for forage crops

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A chaff cutter is a mechanical device for cutting straw or hay into small pieces before being mixed together with other forage and fed to horses and cattle. This aids the animal's digestion and prevents animals from rejecting any part of their food. The length of the crops will be from 3 to 10 cm for economic and efficient use of fodder by making silage and for way assimilation by animals. In any of the chaff cutter the stalk is fed with the help of a conveyor or manually to the rollers which have teeth to grip the stalk. These rollers feed a compressed layer, of stalk to the shearing plate. The cutting blade in a rotating action comes in contact with the layer if stalk and either by impact force or impact and shear force chop it. Thus chopped fodder is blown aside. A forage harvester has a Number of blades winged in a rotating axis which while in rotation due to centripetal action becomes as straight and powerful to cut the standing crop in the field as desired. The special characteristic of the harvester is that a single group of cutting blade performs 3 tasks at a time. The main advantage is that cutting the standing crop, chopping it successively and lifting as well as throwing the chopped fodder in a trolley. The modified chaff cutter consists of cycling type which is directly connected to the cutting mechanism and hopper is provided beside the operator which is used for feeding the crops. The machine is built with ergonomic consideration and reduces the strain in the hands of the labour. The machine is portable and it can be moved. The blending of the blades is reduced by using high grade steel. The conclusion is that machine built on ergonomic considerations which reduces the hand pain and is protected from the occurrence of any accidents by having a hopper instead of conveyor.

#### **Biography**

Vennila K has completed BTech (Ag. Engg.) from Agricultural Engineering College and Research Institute, Kumulur, Trichy. Currently she is pursuing MTech (Ag. Engg.) in the Department of Farm Power and Machinery from the Tamil Nadu Agricultural University, Coimbatore.

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