

Seeng-ki-khad for enhancing crop yield

Seeng-ki-khad (a type of manure) is prepared by filling fresh cow-dung, old compost and soil in the horns of dead cow. It is also known as 'B.D. Preparation 500'. The horns filled with above ingredients are kept in a pit (4 m length, 2 m width and 45 cm deep) during the month of September, October and taken out during March-April. The prepared manure is collected and stored in an earthen pot.

Seeng-ki-khad is mixed in 13 litre water and at the rate of 25 g/ha sprinkled over fields before sowing. It is used two times in a year to enhance yield of crops. *Seeng-ki-khad* is reported to increase nitrogen in the soil by enhancing the activity of nitrogen fixing bacteria and water absorbing capacity of soil. It also increases earthworms production and activity (National Workshop on Newer Vistas in Handling and Processing Technology for Horticultural Crops held at New Delhi, 14-15 June, 2002, Abstracts, p. 18).

Watermelon juice

Watermelon is a delicious fruit of summer season and is cultivated widely in tropical regions. The pulp of the fully ripe fruit contains 93.1% water, 0.2% protein, 7% carbohydrate, 27.3 mg sodium, 160 mg potassium, 11 mg calcium/100g. Further it possesses many medicinal properties e.g. if taken with cumin and sugar, the juice is a good cooling agent in urinary diseases.

Since the fruits are not easily available throughout the year its juice can be prepared and stored at room

temperature for 6 months. For preparation of juice, pulp of the fruits is separated from rind and seeds and juice is extracted with the help of mixer. After adding required sugar and citric acid and ginger extract (optional), juice is heated continuously till it reaches a temperature of 80-85°C. The ready juice stored in sterilized bottles is pasteurized at 85°C for 20 minutes. The shelf life of this juice is 6 months at room temperature or 12 months at refrigeration (Sujatha *et al*, National Workshop on Newer Vistas in Handling and Processing Technology for Horticultural Crops, New Delhi, 14-15 June, 2002, Abstracts, p. 24).

Neem leaf treatment increases maize yield

Green manuring has always been preferred over fertilizers. The advantages of application of neem leaves to different crops is established by various studies hence Padmaja & Narayanan at Agricultural College, Bapatla, Andhra Pradesh studied the effect of different tree leaves e.g. Acacia, Polyalthia, Eucalyptus, Delonix, Pongamia, Lady's Finger, Neem and Soapnut. During experiment the chopped leaves were added to the soil at the rate of 60 g/kg and the mixture was allowed to decompose for twenty days by watering regularly. The seeds of maize were sown and allowed to grow for three months up to silking stage by watering regularly. The seed yield per plant was found to be maximum in neem leaf application compared to Delonix, Pongamia and control [Padmaja & Narayanan, *Andhra Agric J*, 2002, 49 (1&2), 69-73].

'COFS 29'- Multicut Sorghum for fodder

For a regular supply of nutritious fodder there was a long felt need for multicut sorghum. To fulfill this demand agriculturists at Tamil Nadu Agricultural University, Tamil Nadu developed a multicut fodder, 'COFS 29' ('TNS30'x *S. sudanense*). The new variety is having a yield potential of 170 tonnes/ha of green fodder per year in five harvests at 65-70 days intervals. It is tall in stature and produces 10-15 thin tillers, less crude fibre and HCN content (Khan *et al*, *Madras Agric J*, 2002, 89, 285-289).

***Cyanotis tuberosa* Roxb. roots are not substitute for 'Safed Musali'**

'Safed Musali', the roots of *Chlorophytum laxum* Br. and *C. borivilianum* Sant. & Fernandez is a highly medicinal plant cultivated on large scale in various parts of the country. The roots of annual herb, *Cyanotis tuberosa* Roxb. belonging to a different family *Commelinaceae* but similar in appearance are considered as substitute for 'Safed Musali' and hence adulterated with the latter. The detailed morphological, pharmacognostic, anatomical and phytochemical studies revealed that root tubers of *Cyanotis tuberosa* Roxb. can not be regarded as a substitute for precious Ayurvedic drug, 'Safed Musali' (Aundhe & Deokule, *J Phytol Res*, 2001, 14, 59-62).

Banana plant juice prevents rusting

Banana plant juice is a transparent solution, which runs out from the pseudostem when the plant is cut. The juice becomes pink when exposed to air and after some time changes to light brown. After harvesting the banana wastes were used to produce pulp and paper using sodium hydroxide as pulping reagent. The resulting black liquor from the pulping process caused environmental pollution.

El-Sayed and others from Egypt, investigated the admixture effect on corrosion resistance against surrounding aggressive media, applying the weight loss method.

The results indicate that the maximum inhibition varies according to the anti-corrosive material used. The addition of banana plant juice leads to an increase in the protection per cent, since it forms a protective layer on the concrete steel surface and hence prevents it from corrosion [El-Sayed *et al*, *J Sci Ind Res*, 2001, 60(9), 738-742].

Increase the growth of Mushroom

The fungus *Pleurotus Sajorcaju* (Fr.) Singer has been identified as an edible mushroom but is yet to attain its large scale cultivation. The studies conducted in Rajasthan revealed that maximum growth of this mushroom can be obtained on potato dextrose agar medium in both solid as well as liquid medium. A temperature of 25°C and pH 6.0 were found suitable. Sucrose and urea proved to be the best source for its growth. Good yield of sporophore is achieved if wheat straw (substrate) is treated with Bavistin + Formalin (Yadav, *J Phyto Res*, 2001, 14, 95-98).

New groundnut variety, 'GRI Gn5'

The State Variety Release Committee for Tamil Nadu has released a new groundnut variety, 'GRIGn5', which is going to be a relief for farmers whose groundnut crop yield goes down up to 70% per cent due to the combined attack of late leaf spot and rust disease. The variety has been developed by a cross between 'CG26' and 'ICGS44'. It is a bunch type maturing in 105-110 days and recorded an average pod yield of 2,133 kg/hectare under rainfed and 2,384 kg/hectare under irrigated condition. The shelling outturn is 75.0 per cent. The kernels are medium size with red testa. It has seed dormancy for 45 days (Vindhiyavarman & Naina Mohammed, *Madras Agric J*, 2002, 89, 215-217).

Pretreatment for packing guava fruits

Guava is a perishable fruit hence to increase its shelf-life effective packaging technologies have to be adopted. Studies carried out by Preethi *et al* at Horticultural College and Research Institute, Periyakulam revealed that fruits packed in 500 gauge polyethylene bags after dipping them in 1000 ppm maleic hydrazide for 15 minutes and stored at 10°C increases the storage life of fruits for 5 weeks (National Workshop on Newer Vistas in Handling and Processing Technology for Horticultural Crops, held at New Delhi, 14-15 June, 2002, Abstracts, p. 23).

A new composite variety of Bajra released

A *Bajra* composite Pusa 383 was released and notified for cultivation in the northern Indian *bajra* growing states of Rajasthan, Haryana, Gujarat, Uttar Pradesh, Madhya Pradesh, Punjab and Delhi. With an average yield of 2168 kg/ha, it has out yielded the commercial checks, ICMV 221, ICTP 8203 and Pusa 266 by 16.4%, 18.7% and 11.8%, respectively. It matures in 75-78 days and is a fast growing composite variety suitable for moisture stress conditions. This composite is highly resistant to downy mildew disease and is widely adapted to rainfed and irrigated conditions. The farmers can produce seed of this composite with minimum training unlike the case of hybrids where the seed has to be purchased every year [*IARI News*, 2001, 17(4), 1].

Seed oil mixture for controlling rice leaf folder

In almost all rice growing areas rice leaf folder, *Cnpholocrocis medinalis* Guen. has attained a major pest status destroying up to 80% of yield. To avoid application of synthetic insecticides, agriculturists at Tamil Nadu Rice Research Institute, Tamil Nadu studied the effectiveness of natural oils. It is reported that neem seed kernel extract (NSKE) 4% + pongam oil 1% and neem oil 2% + pongam oil 1% mixture was effective against leaf folder. This treatment increased the yield and showed no adverse effect on the spider predators (Sridharan, *Madras Agric J*, 2002, 89, 297-301).