).1% (37.82%). Application of triacontanol has mproved the partitioning of drymatter to eproductive structures (Prasad and Prasad, 1994). From the above results, it can be concluded hat foliar application of triacontanol at 0.2% nd mixtalol at 0.1% significantly increased he seed yield in greengram.

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esearch Notes

tatus of biomass briquetting units in Tamil Nadu

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Biomass residues and by products are available in abundance at the agro processing centres (rice husk, bagasse, molasses, coconut shell, groundnut shell, maize cobs, potato waste, coffee waste, whey), farms (rice straw, cotton sticks, jute sticks), animal sheds (cow dung, poultry excreta) and forests (bark, chips, shavings, sawdust).

Agricultural or agroindustrial biomass is generally difficult to handle because of its bulky and scattered nature, low thermal efficiency and copious liberation of smoke during burning.

In order to achieve maximum and efficient exploitation of local available resources, it is essential to compress them into manageable and compact pieces, which have a high thermal value per unit weight. This process is called biomass briquetting or pelleting. Compressed biomass briquettes are usually cylindrical in shape with a diameter between 30 to 90 mm and length varying between 100 to 400mm. Briquetting consists of applying pressure to a mass of particles with or without a binder and converting it into compact aggregate.

Briquette manufacturing units are commercially making briquettes by adopting various technologies. They use different raw materials or their combinations to make briquettes. A study was conducted to evaluate commercially available briquetting industries and to assess their status by getting detailed information on the working, market potential, economics and the problems.

Briquetting technology

Two types of briquetting machinery are being mainly used for the manufacture of briquettes from agro-residues. They are ram type and screw type machinery. Ram type consists of a plunger or rod which forces the material received from a hopper into a die, which is not usually heated by external means. The screw type machine employs a screw auger which forces the material into a pipe heated by electricity. The choice of the type of machinery depends on many factors.

Market potential

There is no dearth of market for briquette as it can efficiently compete with other fossil

Combination of raw materials	Approximate cost Rs.
Saw dust 40% + Groundnut shell 60%	86(
Coffe husk 20% + Groundnut shell 30% + Saw dust 50%	85(
Saw dust 80% + marigold 20%	76(
Groundnut shell 40% + turmeric dust 10% + coffee husk 30% + marigold 10% + cotton dust 10%	78(

fuels like coal and also wood. Continuity in supply and confidence in the produce are the two major considerations for marketing briquettes in India.

Small-scale industries are the major marketing base for biomass briquettes. Rubber industries, textile dyeing units, leather processing units, small boiler units, tobacco processing units, brick kilns and the domestic sector which use huge amount of wood and loose biomass have to switch over to briquettes.

Traders who were already engaged in supplying coal/charcoal/wood possessing godown facilities and familar with market base have established some units of their own.

In this context more than 16 firms are reported to be in business in Tamil Nadu and the survey was conducted with them to collect details.

The combination of raw materials used and the approximate cost is furnished in the table.

Conclusions

With the environmental impacts of fossil fuel use emerging as major threat to the socity, renewable energy in general and biomass energy in particular, are expected to assume increasing importance in the future. The study shows that briquetting is a promising enterprise provided that appropriate decision is taken on selection of raw material depending on seasonal availability. There is great scope for briquettes and can compete well with wood in specific applications.

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Research Notes

Effect of storage containers and seed treatments on seed viability and vigour of greengram (*Vigna radiata* (L.) Wilczek) cv. CO 6

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One of the most important basic needs for higher agricultural production is quality seed, characterized by high viability and vigour. Maintenance of seed viability and vigour from harvest till the next growing season is of the utmost importance in a seed production programme. Pulses are being cultivated in an area about 226 lakh hectares in India, with the production of 121 lakh M.T. (Karivaradaraaju, 2000). During seed storage, qualitative and quantitative losses upto 8.5% have been reported in India (Anon, 1978). The poor seed quality may also be due to the poor storability which is very often being decided by the internal and external factors. In pulses, the major cause for seed deterioration during storage is bruchid damage. Among different species of bruchids, *Callosobruchus maculatus* (L.) is considered to be the most destructive in India and causing severe damage to the storage seed to the extend of 93.33% in different pulse crop (Parsai *et al.* 1989). The seed deterioration is also hastened by adverse storage