

COTTON *Innovate*



Weekly Newsletter from Central Institute for Cotton Research, Nagpur

www.cicr.org.in

Issue : 2, Volume :7, July 7-12, 2015

Microbially Enriched Compost – Popular Article

to improve the soil organic carbon status, recycling of organic manure and crop residues...

Farm yard manure (FYM) is in short supply and to improve the soil organic carbon status, recycling of organic manure and crop residues is essential. However crop residues have high C/N ratio. This can be reduced by composting. On the Institute farm, large amount of crop residues especially stalks of cotton and pigeon pea are available. Besides this, during the summer months, perennial trees shed substantial quantity of leaves. These can be used as an organic resource for fertilizing crop fields by composting, which otherwise goes as a waste. The main purpose was to prepare compost for effective utilization of farm wastes. Pit and surface heap method was

practiced for composting by utilizing cultural microbes and the process followed given below.



Surface heap covered for composting at ICAR-CICR Nagpur farm

Method of preparation

1. Cotton stalks, arhar stalks and shed leaves of trees (25 kg dry wt basis) were spread (2m length x 1m width) on a plastered floor.
2. Addition of cowdung (25 kg dry wt basis) and sprinkled with water to maintain sufficient moisture (approx.70%).
3. Finely ground black soil (15 kg) was later spread over the cowdung.
4. In order to reduce ammonia volatilization lime (1kg) was applied
5. Fresh cow dung slurry (10 kg) along with 200 ml of every effective microbial culture (*Acinetobacter, Bacillus, Cecadea, Enterobacter, Pantea and Pseudomonas*) mixture is applied on every layer
6. This sequence was repeated six times until 1.5 m height was attained.
7. Layered heap was plastered with a thick layer of (10 cm) of fine black soil and cow dung paste.
8. To maintain the temperature at about 40°C water was sprinkled intermittently and covered with a polythene sheet.

Composting process converts solid organic residues (or) wastes into simple stabilized grease like substance, which is referred as compost. Addition of microorganisms (*Acinetobacter, Bacillus, Cecadea, Enterobacter, Pantea and Pseudomonas*) improved the rate of decomposition under controlled conditions. By this method, 4 t farm waste was effectively recycled (Figure) and nearly 1.8 t compost was produced within 3-4 months. Amendment of compost provides both direct and indirect benefits such as organic farming, improving soil fertility and crop nutrition.

By

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Fox and Fibre : A Colourful Endeavour – Literature scan



Sally Fox who is a pioneer in natural colour cotton varietal development though coloured cotton is being exist from human civilization. Fox is the fifth of six children of San Francisco real estate business parents, as a vivid child Fox has always been longing for spinning and knitting from childhood onwards. It is so interesting to know about her life incident which changed



“I never really planned to be an inventor, but my attitude toward life has always been inventive.”

–Sally Fox

her orientation towards new area of research in cotton. Sally Fox specialized in Entomology from University of California, Riverside as a master degree; By 1982, she was working for a Plant Breeder to screen pest resistance in Cotton, there she found the brown coloured lint dangling from rare plants in her experiment field designed for entomological studies, people often considered coloured lint genotypes as off type or rouge in pure white cotton field. There was also belief that coloured cotton possesses resistance to pest. That shade of hue attracted Fox and she started improving the genotypes by repeated selection coupled with purification. Since then there is no looking back, Sally becomes full time colour cotton breeder. She assorted different colours *viz.*, dark brown, green and red. She has been granted three Plant Varietal Protection (PVP) certificates and one process patent in colour cotton in US. Fibre from her coloured cotton has been marketed in the brand as Fox Fibre®. Sally designs fabrics with her cotton and also continuous her breeding work. Her colored fibre has been so popular it has sprouted two successful companies namely Vreseis Ltd (in memory of her great grandmother who spun cotton at Crete) and Natural Cotton Colors Inc. In 1986, she started her own manufacturing of coloured yarn, spun threads, woven cloths with the brand name of Fox Fibre® and Colorganic®. Coloured cotton fibres naturally rich in phenolic compounds (lignin) and are resistant to fire,

recently, Fox started designing fire proof jackets. Colorganic® is an initiative by Sally for producing naturally coloured cotton under organic farming without using any chemical fertilizers at her Viriditas Farm, located in the Capay Valley of California. Finally, these words from her mouth encourage many young scientists to emerging out with flying colours.

Reference: www.vreseis.com

Steve Lerne. 1998. Sally Fox: Breeding naturally colored organic cotton eliminates the need for toxic dyes and pesticides. In “Eco-Pioneers: Practical Visionaries Solving Today's Environmental Problems”, The MIT Press, pp 101-114.

Contributed by Dr.A. Manivannan, Scientist (Genetics), ICAR-CICR, RS, Coimbatore

Students Educational Visit to CICR, Regional Station, Coimbatore

A group of Final year B. Tech (Water Technology) Students from Allahabad visited CICR Regional Station, Coimbatore on July 09, 2015 as a part of their training programme at Water Technology Centre, TNAU, Coimbatore. Dr. S. Usharani, Senior Scientist (Agricultural Extension) explained the various achievements and ongoing activities of the Institute.



Workshop

Sh Afzal Khan, Asst (Administration) attended the workshop on Income Tax (WI Tax-03) for the DDO's and dealing Assistant from 06.07.2015 to 07.07.2015 at Institute of Secretariat Training and Management, New Delhi. The training program aims to improve

skill of the office work and consisted of the Income Tax, facing problem i.e. e-filing of Income Tax, TDS return filing on quarterly basis, calculation of Income Tax etc. for smooth work of Income Tax and TDS return filing of official staff's and other Agency/Party .



Meetings

Dr. K. R. Kranthi, Director, ICAR-CICR attended a meeting at CIRCOT, Mumbai to finalize MoU between Mahindra & Mahindra, CIRCOT, Mumbai and CICR, Nagpur on 9th July, 2015.

Dr. K. R. Kranthi, Director, ICAR-CICR attended 'Agrovision' meeting at Nagpur on 11th July, 2015.



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Media Support & Layout design : Mr. M. Sabesh

Citation : Cotton Innovate, Issue-2, Volume-7, 2015, ICAR-Central Institute for Cotton Research, Nagpur.

Publication Note: This Newsletter presented online at http://www.cicr.org.in/cotton_innovate.html

Cotton Innovate is the Open Access CICR Newsletter

The Cotton Innovate – is published weekly by ICAR-Central Institute for Cotton Research
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