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COIR PITH – THE FUTURE SOIL

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As the physical, chemical, and biological nature of the soil is sharply degrading, there is an urge to enhance the soil health or use an alternate. Here comes the coir pith for the save. If added to the soil, it improves the soil health or can be solely used as media for plant growth. Besides that, coconut husk contains 30% fiber and 70% pith from where pith can be separated and processed into growing media thus expanding its scope in field of agriculture. Coir pith acts as an excellent soil conditioner, holds high volume of water and is extensively used as soil – less medium. Thus, coir pith extends its role in agriculture and allied sectors.

Properties of Coir Pith

- Moisture absorption capacity – nine-fold than soil
- Supports root growth.
- Resistant to saltwater damage
- Can be reused two to three times.
- PH-6.0-7.0

Processing

a. Precursor Processing

This process happens in coir industry where coconut husk is first partially ground and sieved to separate fiber and pith. Now the fiber is soaked for two days and sent to complete grinding and sieving. After this process, pure white fiber is collected and sent for rope making. Then coir pith from both grinding process is collected and sent for final sieving. The brown fiber from this final sieve is used for mattress making and pith will be the raw material for plant medium manufacture.

b. Coir Pith Processing

The raw material (coir pith) sourced from coir industries dried and dropped into the huge sieve where it is segregated into three components- baby fiber, fines, premium material (pith). The pith is pressed in hydraulic press to produce growbag slabs and blocks based on the specifications (height, breadth, and length) for different rooting pattern of plants. The ram and dye of machine is adjusted according to the specification of growbag slabs and blocks. Sometimes slabs /blocks produced with mixture of pith and fiber, pith, and coconut husk chips at certain ratio (E.g.: 30% chips, 70% pith)

c. Growbag Slabs

This pressed pith slabs are sealed into a UV treated bag to be used as growth medium at greenhouses as well as in fields. They last for two to three years in minimum. They are used to cultivate tomatoes, strawberries, and blueberries. Plants are seeded in alternate holes on slabs, i.e., 1st, 3rd, 5th holes in first season and 2nd, 4th, 6th holes in next season. They are watered and fertilized through needle drip irrigation system.



d. Blocks

Various blocks are manufactured based on some specifications. These blocks are mixed with soil and used thereby increasing the water holding capacity, aeration, and plant growth. Different types of blocks include 5 kg blocks, 650 g, 20*20, and 30*30. Also, these blocks can be crushed and used as a substrate for mushroom cultivation.



5kg blocks



650g blocks

e. Other Products



Open bags



Coir pith pots & pellets

Byproducts Usage

Every product of coco husk has its importance nowadays. Fines that are obtained from the smallest sieve is sent to various industries where it is mixed with saw dust and used as fuel in boiler plants. The baby fibers removed from the pith can be used as medium component in plant nurseries or can also be shred and processed into 5 kg blocks.

Conclusion

Coco pith being ecofriendly and zero hazardous can be used as a best alternative to convert exploited soils into healthier ones. Indian states like Kerala and Tamil Nadu are blessed with large coconut plantations making an easy way to source the raw material. These coco pith growbags have already made its impact in foreign countries like Spain, Morocco, and other gulf countries. The raise of coco pith products in India in agriculture is not so far.

Reference

Anita Das Ravindranath."Coirpith- wealth from waste a reference". Proceedings of "India International Coir Fair" at Coimbatore from 15th to 18th July 2016.