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ABSTRACTS



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INFLUENCE OF TERRACOTTEM® SOIL CONDITIONER ON GROWTH AND DROUGHT RESISTANCE OF A MEDICINAL PLANT (AEGLE MERMALOS)

M.A.U. Mridha*, Vijay Alreja**, P.P. Dhar*, J. Sengupta* and M.K. Bhuiyan***

*Department of Botany, University of Chittagong

**TerraCottem Bangladesh, ABC House (9th Floor), 8, Kemal Ataturk Avenue, Banani C/A, Dhaka, Bangladesh

***Institute of Forestry and Environmental Sciences, University of Chittagong; Bangladesh

E-mail: terracottembd@yahoo.com
mridha@abnetbd.com
www.terracottem.com

TerraCottem is a proprietary mixture of more than 20 components that work in a synergy to significantly increase the capability of soils and growing media to retain and provide water and nutrient's to improve plants & root growth, and to reduce the amount of water necessary to create high quality plants.

Originally developed by scientists from the University of Gent (Belgium) to combat desertification in U. N. and other humanitarian projects in Africa, the product is used today by professionals and consumers in more than forty-five countries worldwide to improve the quality and success of their work while reducing water consumption, in landscaping, sport and golf turf, horticulture, reforestation and gardening.

TerraCottem when added in minor quantities to the soil, around the new & existing flora, creates a protective shield - providing a "rootosphere" around the root structure of the plant, thus, intelligently **defending it against harmful conditions such as salinity, drought & water logging, while simultaneously providing the plant with essential nutrients required for a healthy growth and increased crop yield.**

TerraCottem creates a conducive environment without altering the physical characteristics of the soil thereby providing stress free growth environment to the plant. TerraCottem in no way acts on the plant directly nor effects the intrinsic characteristics of the final produce. It's basic role is to promote the root growth. The benefits of TerraCottem soil conditioner are:

- Increases the water retention capacity of the soil.
- Stimulates fast & better root development.
- Stimulates plant growth, formation of buds, blooming, fruit production and decreases maturation time.
- Extends the growing season.
- Lowers the volume and frequency of irrigation water needed.
- Reduces fertilizer and irrigation cost by over 50% by reducing the quantity of fertilizers required.
- Reduces the plant mortality & increases the survival rate of plants in periods of drought, stress or transplantation.

TerraCottem is being used in over 45 countries across the globe and has shown amazing results such as:

Chittagong University, Bangladesh conducted experiments under green house conditions with 2 months old seedlings of a medicinal plant called **Bel (*Aegle mermalos*)** grown in perforated poly bag containing 1 kg soils.

In the **first experiment**, 3gms of TerraCottem was incorporated in each pot after making several holes in soil with glass rod. The inoculated seedlings along with control seedlings were kept in water (up to the neck of bags) overnight to facilitate water absorption by the hydrogel in TC.

After one month of growth, it was observed that the plant height, number of leaves, area of leaves, size of leaves etc were higher in TerraCottem treated plants than untreated and also the leaves of TerraCottem treated plants were darker than the untreated plants.

In **second experiment**, again two months old seedlings of Bel (*Aegle mermalos*) were used. Different doses (0.25g, 0.5g, 1.0g, 2.0g and 3.0g) of TerraCottem was incorporated with pot soil as in first experiment and a proper control without TerraCottem was also maintained to observe the amount of TerraCottem and to determine the pre-wilting period required for the seedlings.

It was observed that the seedlings in the control treatment i.e. without TerraCottem were wilted after 6-7 days of starting of the experiment, whereas in 0.25g, 0.5g, 1.0g, 2.0g and 3.0g TerraCottem treated plants showed wilted symptoms after 9-10 days, 10-11 days, 11-12 days, 12-14 days and 12-15 days respectively.

It was also observed that small plants in a particular TerraCottem treated pots showed wilted symptoms after 3-6 days later in comparison to big plants in the same treatment.

The results of this experiments indicated that TerraCottem can improve growth of the seedlings and improve the water relation of the inoculated seedlings and the seedlings can withstand longer period of drought than non inoculated seedlings.

More experiments are in progress to explore the possibility of introduction of TerraCottem in plant growth systems in nursery as well as in fields.

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ORIGINAL ARTICLE

SECOND GLOBAL SUMMIT ON MEDICINAL AND AROMATIC PLANTS 25TH-29TH OCTOBER, 2004, NEW DELHI, INDIA

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M.A.U. Mridha¹, Vijay Alreja², P.P. Dhar¹, J. Sengupta¹ and M.K. Bhuiyan³

¹Department of Botany, University of Chittagong, Bangladesh

²TerraCottem Bangladesh, ABC House (9th Floor), 8, Kemal Ataturk Avenue, Banani C/A, Dhaka, Bangladesh, ³Institute of Forestry and Environmental

Sciences, University of Chittagong; Bangladesh

E-mail: terracottembd@yahoo.com

TerraCottem (TC) is a proprietary mixture of more than 20 components that work in a synergy to significantly increase the capability of soils and growing media to retain and provide water and nutrient's to improve plant & root growth. It can protect the plants from harmful root conditions in periods of draught, stress, salinity and transplantation while simultaneously providing the plant with steady supply of moisture and essential nutrients resulting in increased physical and chemical growth of the plants and total biomass and also increases the survival rate of plants. TerraCottem is being used in over 45 countries across the globe and has shown amazing results. Chittagong University, Bangladesh conducted experiments under greenhouse conditions with 2 months old seedlings of a medicinal plant called Bel (*Aegle mermalos*) grown in perforated poly bag containing 1 kg soils. In first experiment, 3gms of TC were incorporated in each pot after making several holes in soil with glass rod. The inoculated seedlings along with control seedlings were kept in water (up to the neck of bags) overnight to facilitate water absorption by the hydrogel in TC. After one month of growth, it was observed that the plant height, number of leaves, area of leaves, size of leaves etc were higher in TC treated plants than untreated and also the leaves of TC treated plants were darker than the untreated plants. In second experiment, again two months old seedlings of Bel (*Aegle mermalos*) were used. Different doses (0.25g, 0.5g, 1.0g, 2.0g and 3.0g) of TC were incorporated with pot soil as in first experiment and a proper control without TC was also maintained to observe the amount of TC and to determine the pre-wilting period required for the seedlings. It was observed that the seedlings in the control treatment e.g. without TC were wilted after 6-7 days of starting of the experiment, whereas in 0.25g, 0.5g, 1.0g, 2.0g and 3.0g TC treated plants showed wilted symptoms after 9-10 days, 10-11 days, 11-12 days, 12-14 days and 12-15 days respectively. It was also observed that small plants in particular TC treated pots showed wilted symptoms after 3-6 days later in comparison to big plants in the same treatment. The results of this experiments indicated that TC can improve growth of the seedlings and improve the water relation of the inoculated seedlings and the plants can withstand longer period of draught than non inoculated plants. More experiments are in progress to explore the possibility of introduction of TC in plant growth systems in nursery as well as in fields.