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From brown to green: DENR battles environmental issues through biotech

By **BusinessMirror**
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As the research bureau of the Department of Environment and Natural Resources (DENR), the Ecosystems Research and Development Bureau (ERDB) conducts various researches to help protect and preserve the environment. The ERDB takes advantage of the plant-microorganism relationships in developing biofertilizer that are useful to produce quality planting materials.

Combatting deforestation

One of the problems the Philippines faces today is deforestation. The DENR has been exerting efforts to raise public awareness on the importance of the forests and trees in the environment. It has been also strictly implementing the policy on cutting trees and urging tree-planting, especially in degraded areas.

To support the DENR in this endeavor, the ERDB has developed a biofertilizer called Hi-Q VAM 1. It is a fungus that attaches to the roots and serves as extension that helps plants better absorb water and makes plants healthier and immune to diseases.

Hi-Q VAM 1 is applied only once on the seedlings. Once it penetrates the roots, the biofertilizer continues to multiply. The ERDB developed the technology to produce quality planting materials of indigenous forest trees that are used for reforestation, including the National Greening Program.

Hi-Q VAM 1 can also be used in agricultural crops. The ERDB has been conducting technology forum on the use of the biofertilizer and attended by various people's organizations (PO) from different parts of the country. Most composed of farmers, the POs are informed on the importance of planting indigenous trees besides crops.

Clonal propagation for quality planting materials

It is important that the plants that used in rehabilitation sites are of good quality, thus, the ERDB implements clonal propagation.

Clonal propagation is through stem cuttings from mother trees or trees that carry good characteristics. Stem cuttings are the vertically grown shoots after the mother tree was detopped. They are rooted in sterilized medium for two to four weeks and applied with Hi-Q VAM 1.

Clonal propagation is another effort of the ERDB to produce quality planting materials for rehabilitation purposes.

Reviving degraded areas in mining sites

The DENR also faces the challenge of rehabilitating mining sites. The ERDB has conducted phytoremediation in Itogon, Benguet and Bagacay Mines in Hinabangan, Samar.

Trees were planted in these mining areas to absorb heavy metals in the soil. Indigenous trees like narra, agoho, kupang, batino and Benguet pine were applied with Hi-Q VAM1. They were planted in mining areas and absorb the heavy metals in the ERDB research sites. There are currently trees growing in the former barren areas.

As the DENR explores biotechnology, its uses and potentials in environmental protection and conservation are being discovered.

The ERDB has been continuously engaging in various research activities to promote new discoveries to contribute in sustainable development of the country.

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