Technology Fact Sheet

Super water absorbent products AMS-1[i]

1) Technology description

Super water absorption product was named AMS-1 by Assoc. Prof. Nguyen Van Khoi et al. (Polymer Lab of Institute of Chemistry - Vietnam Academy of Science and Technology) researched and manufactured from the graft polymerization acrylic acid combined with denaturant starch and had two registered products were AMS - 1 and AMS – 2 (trademarks copyright). A small amount of AMS-1 applied to the soil can retain water in the soil 400 times more than normal soil and provide water for root of plants. When the stored water was consumed by plants and evaporation, the AMS-1 material shrinks to the original volume and then continues to save water from rains or irrigation.

2) Social – economic benefits

Cheap, high economic efficiency (a hectare with 25-35 kg of AMS-1 can save a few million VND (several thousand USD) from irrigation).

3) Environmental benefits

- Saving water.
- Allowing planting on arid lands to improve climate and environmental conditions.

4) Status of technology

In Vietnam, this technology has been used in coastal afforestation, anti-dry sand programs in the South Central Region.

5) Application potential

Applied in planting in coastal zone and preventing dust wind in arid land in South Central Region.

6) Barriers

- Large capital costs.
- Not appealing to people.

7) Costs

Implementation and technology application costs

- The cost is about 25 to 35 kg / ha, the product of about 1 USD/ kg. Time comes after about 18 months; the cost will increase to 35 to 50 USD /ha/year.

Incremental costs to adapt to climate change (compared to conventional technology)

- No incremental cost.

[i] **This fact sheet has been extracted from TNA Report - Adaptation for Vietnam. You can access the complete report from the TNA project website http://tech-action.org/**