

Technology Fact Sheet

Agricultural by-product, foliage and plastic mulchingⁱ

1) Technology description

This technology is popular in areas that are water-intensive, arid, or have heavy evaporation or sandy soils with poor moisture retaining capacity. Inputs for this technology include: i) post-harvest straw or hay; ii) foliage from agro-forestry systems; and iii) plastic mulch.

2) Socio-economic benefits

- Speeding up seed germination and shorten time requirement, increasing crop yields.
- Enhancing land use efficiency, reducing damages due to season-end droughts.
- Cutting down weed and pest management costs and irrigation budget.

3) Environmental benefits

- Increasing fertilizer efficiency.
- Reducing nitrogen volatilization and nitrous oxide emissions.
- Controlling weeds.
- Protecting field environment.

4) Status of technology

This technology is practiced by farmers in the KWS and now with the available materials such as straw, leaves, etc., there are many types of materials and advanced technologies that can protect the commodity chain production of plants better.

5) Application potential

- Potential for large-scale application in coastal sandy lands, which have low levels of organic contents and nutrients, or in drought-prone areas at the beginning of spring and summer crops.
- It can also be applied to steep arable lands, especially in vegetable farms in Da Lat, or in the mountains and highlands.

6) Barriers

- Difficult to change the traditional practices.
- Capital-intensive.

7) Costs

Implementation and technology application costs

- Costs can vary from according to the cost of materials (high costs for expensive materials and low costs for cheap materials).

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

- It can increase crop yields, save water, nutrition, maintain and improve soil fertility.

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/>**