

## TEHNOLOGII NOI UTILIZATE ÎN VEDEREA VALORIFICĂRII LA EFICIENȚĂ CRESCUȚĂ A UNOR DEȘEURI ȘI SUBPRODUSE REZULTATE DIN AGRICULTURĂ, SUB FORMĂ DE CÔMPOST /

## NOVEL TECHNOLOGIES USED FOR INCREASING THE PERFORMANCES OF COMPOSTING WASTES AND BY-PRODUCTS RESULTED FROM AGRICULTURE

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### DESCRIERE:

Acest proiect se referă la dezvoltarea unei noi tehnologii care poate fi utilizată pentru compostarea la eficiență ridicată a deșeurilor și a produselor neconforme rezultate din gestionarea serelor. Tehnologia de compostare implică două elemente principale:

- A. Dezvoltarea și testarea unor rețete de compostare și a unor condiții specifice de degradare și
- B. Dezvoltarea unui flux tehnologic folosind o instalație inovatoare de compostare, care scade timpul de procesare și crește calitatea compostului.

### DESCRIPTION:

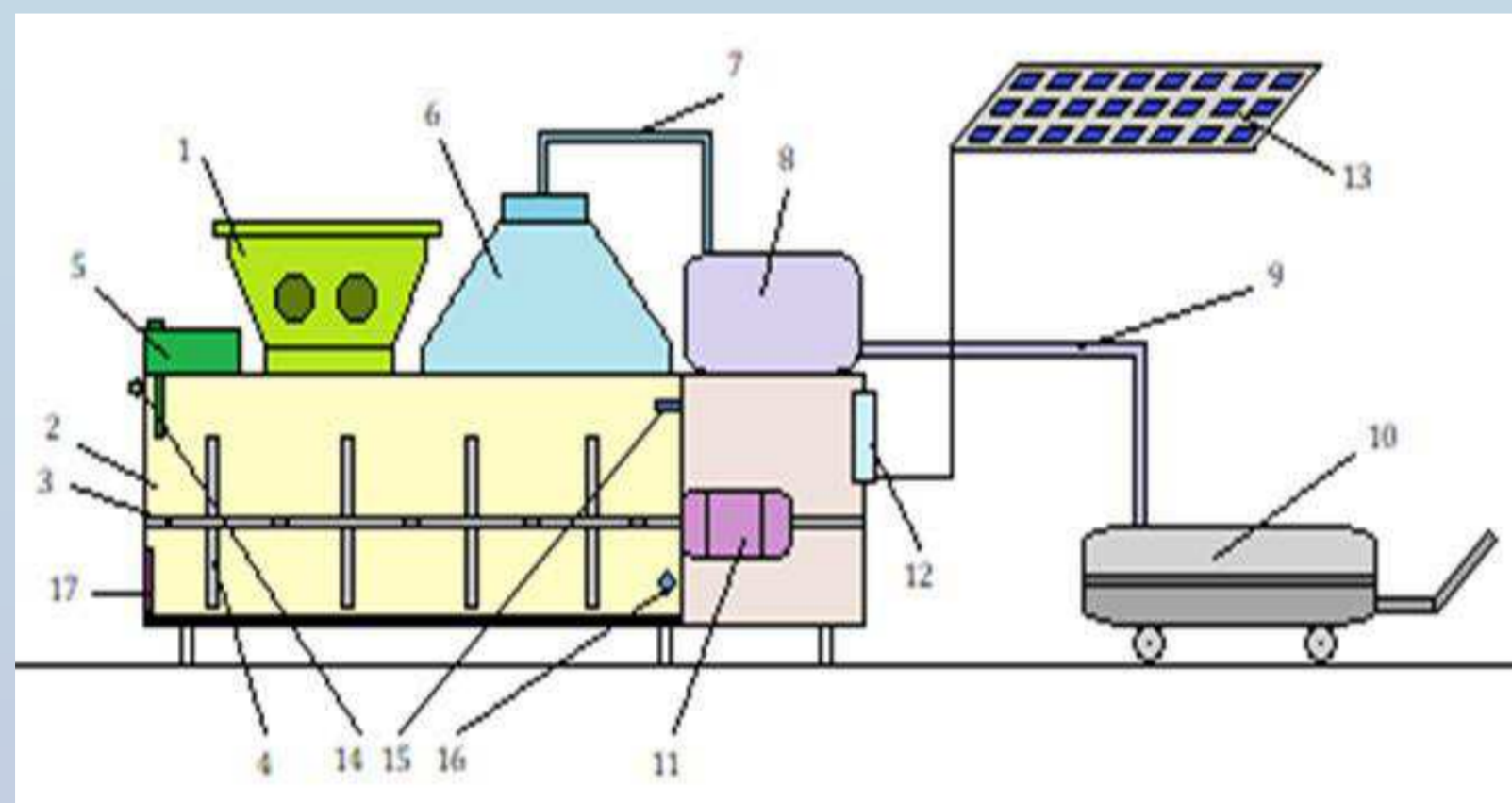
This project refers to the development of a novel technology that may be used for high efficiency composting of agricultural wastes, and non-compliant products resulted from the management of greenhouses. The composting technology involves two main elements:

- A. Development and testing of various composting recipes, consisting of different vegetable mixtures and degradation conditions and
- B. Development of a technological flow using an innovative composting installation, which decreases processing time and increases compost quality.

### DESCRIPTION:

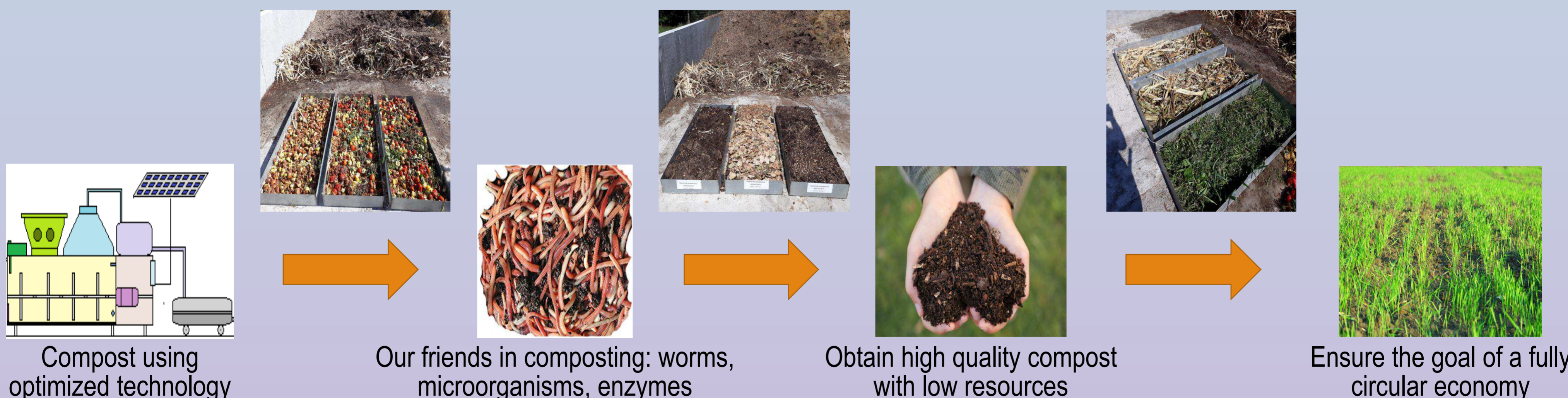
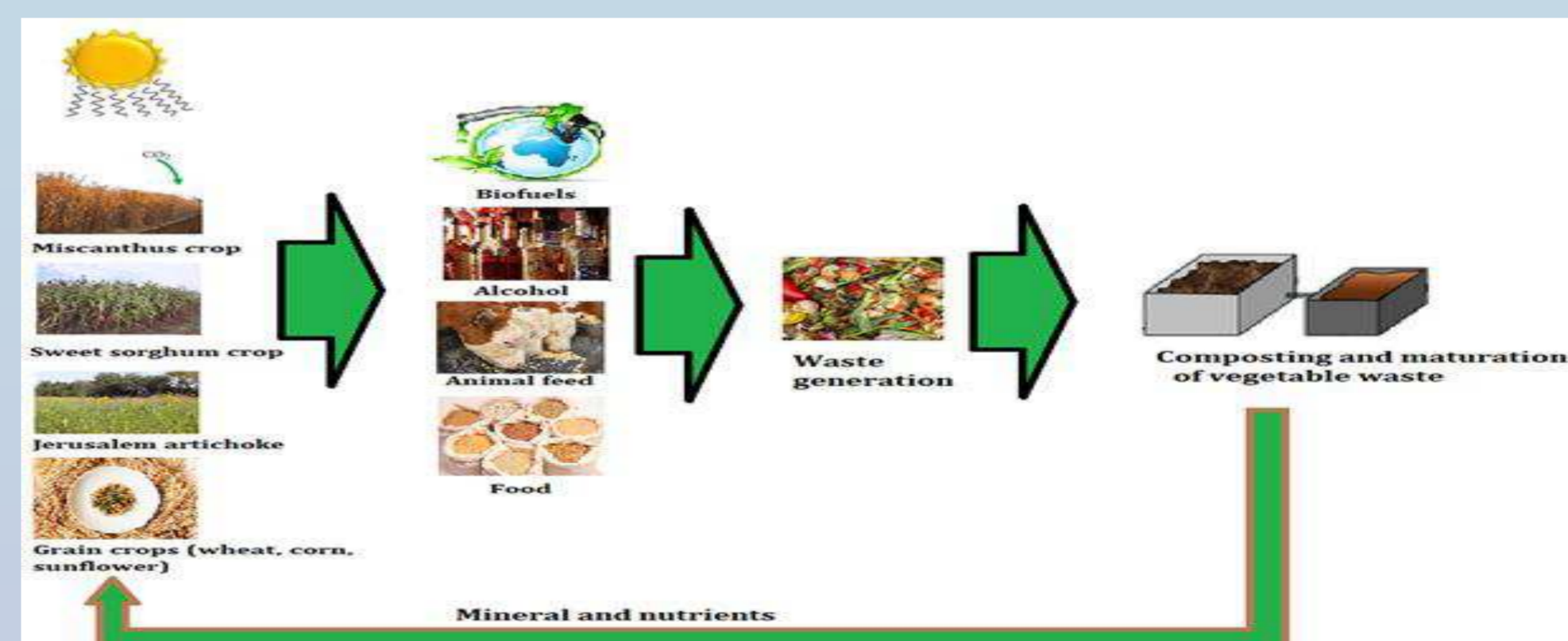
The main components of the innovative composting installation, that help in solving the most common problems identified in the composting technology :

- |  |   |
|--|---|
| 1. Shredder for chopping vegetable mass                                  | 10. Tank for storage and for transporting the condensed water |
| 2. Composting tank   | 11. Compost mixer drive motor                                 |
| 3. Shaft for blade driving   | 12. Automation and control panel                              |
| 4. Compost mixing and aeration blades                                    | 13. Photovoltaic system                                       |
| 5. Enzyme / inoculum dispenser   | 14. Sight sensor  |
| 6. Water capture system, in the form of vapors, from the composting tank | 15. Level sensor  |
| 7. Vapor transport pipeline  | 16. Temperature and humidity sensors                          |
| 8. Vapor condenser   | 17. Compost drain flap pipeline                               |



### CONCLUSIONS:

1. Compost processing using the technology optimized both in terms of recipes and in terms of process, allows obtaining a high quality compost with minimal resources expended;
2. The technology allows us to get closer to European Union goal of reaching the circular economy in agriculture
3. The technology reduces the amount of waste send to the landfill, especially food waste
4. The proposed practices and technology improves the recycling level of recyclable waste, organic waste being the main source of contamination.
5. Increase the amount of raw material that is composted in a batch (up to 10 times) by reducing the volume (using the water vapor capture).
6. Improves a number of environmental factors (reduces olfactory pollution, minimizes the production of greenhouse gases, technology allows the production of quality natural fertilizers, etc.)



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