



# Guidelines for the incorporation and transformation of the agri-waste in the PHENOLEXA biorefinery

## Raw material: Onion wastes

### COUNTRIES

Spain  
Netherlands  
France

### PRODUCTION LOCATIONS

4<sup>th</sup> game Food industry  
Storage centres  
Harvester point  
Laboratories  
Markets

### MAIN ACTORS

Waste managers in the food industry  
Storage centres managers  
4<sup>th</sup> range farmers

### COSTS AND REQUIREMENTS

Is estimated that 7.6% of all the produced onion ends up as residual waste.

#### COSTS:

- seed and sowing: 3,600 - 3,900 €/ha
- trailer loading: 2,500 - 3,500 €/ha
- harvesting: 10,000 - 12,000 €/ha
- Production: 60 - 70,000 kg/ha, or 21 - 25 €/100 kg.

#### REQUIREMENTS:

- External leaves
- Harvest 60 - 75 days after planting
- Application of Maleic hydrazide (MH) to inhibit bulb sprouting
- Prevent deterioration to avoid unwanted constituents with refrigeration.

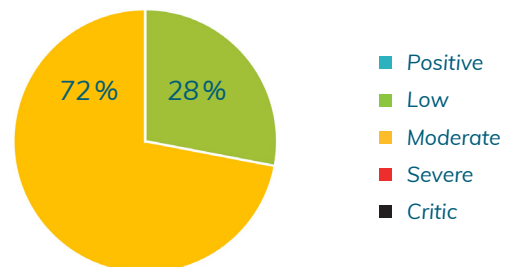
### CURRENT PRACTICES ON WASTE MANAGEMENT

#### Landfilling

#### ACTIVITIES

- Transport and landfilling treatment
- Transport to plant
  - Raw material collection
  - Landfilling

#### IMPACTS



### RECOMMENDATION

**Onion:** Take waste from processing plants and avoid landfill. Avoid composting or rotting the inner parts have sulphur compounds that can give a bad smell and acidify the compost pile finally, these inner parts also have antiseptic compounds.



This project has received funding from the Bio-based Industries Joint Undertaking (JU) under the European Union's Horizon 2020 research and innovation programme under grant agreement No 101023225. The JU receives support from the European Union's Horizon 2020 research and innovation programme and the Bio-based Industries Consortium.

