



Co-funded by the  
Erasmus+ Programme  
of the European Union



UNIVERSITÀ  
DEGLI STUDI  
DI TERAMO

# Reverse Incubator Project



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# The Solvers Team

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**Collaborating company**

**Rustichella d'Abruzzo**

# Aim of project

The goal is to reuse wet waste (about 150 kg / day) and dry waste (about 70 kg / day) deriving from the production of pasta, for the creation of a new product, or more than one.



# Mini Triangoli

Product that takes inspiration from the shape of Nachos or tortilla chips.

Excellent as a snack to carry around or as an ingredient in recipes.

Also available Bio and gluten free.

Product suitable for vegans, not fried and healthy.

# Flowsheet

Mixing

The dough is mixed until the right grain is obtained, which must not contain too large lumps.  
Could be necessary add water.

Extrusion

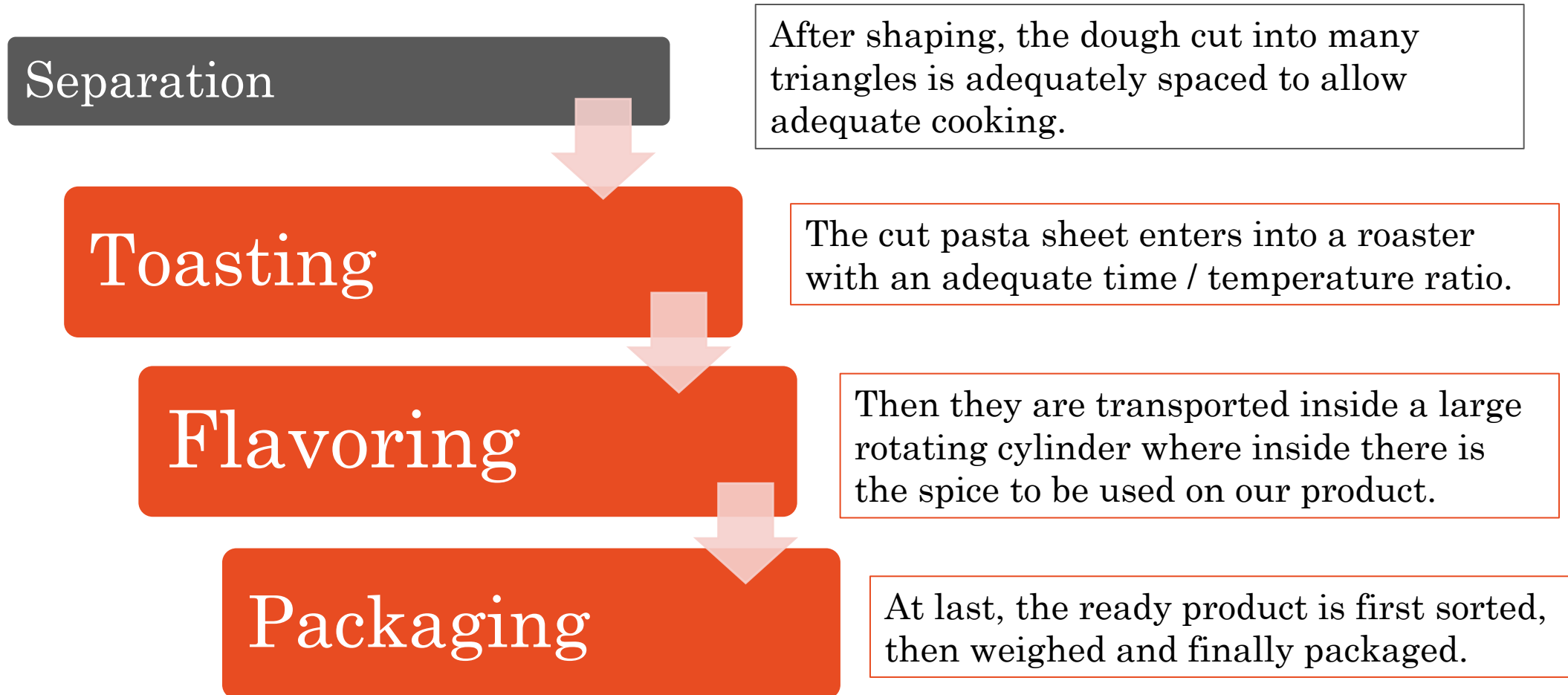
During extrusion, the dough undergoes a light heat treatment ( $< 50^{\circ} \text{C}$ ) and comes out in the form of a sheet of dough.

Cooking

Shaping

This sheet passes under a cylindrical cutter with a triangular texture that evenly cuts the dough.

# Flowsheet





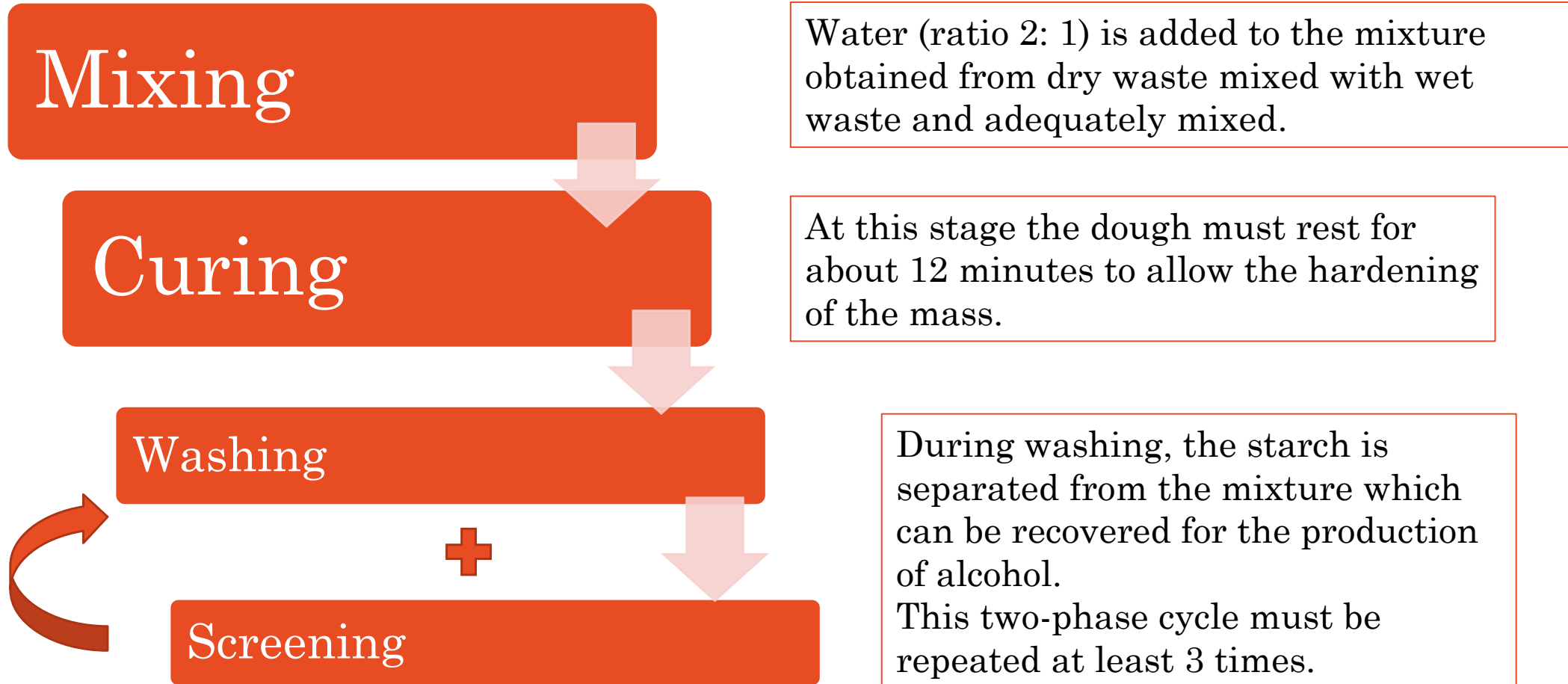
# Semplicemente Seitan

Totally vegetable high protein Seitan

Ideal to replace meat products or as a base for recipes.

Vegan, sustainable and Bio.

# Flowsheet





# Flowsheet

Drying

The fresh gluten mixture just obtained is left to dry.

Mixing

Water is added again to the semi-product obtained and mixed for the last time.

Shaping

Precise quantities of dough pass through a machine that gives a specific shape.

# Flowsheet

Cooking



The semi-finished product then undergoes a stabilizing heat treatment.

Packaging

As a last step, the Seitan is ready to be vacuum packed and sold, respecting the cold chain.

# Pasta fermentata



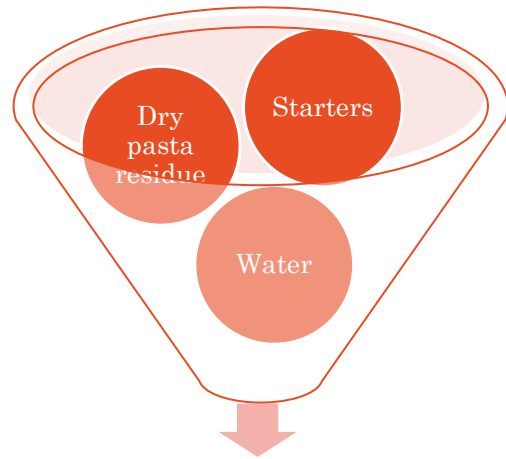
*Lactobacillus alimentarius;  
Lactobacillus brevis; Lactobacillus  
sanfranciscensis as starters*

5 minutes for cooking

Stickiness and firmness near to  
traditional pasta

First in Abruzzo

# Flowsheet



Mixing

Dough

Fermentation  
24h/37°C

Addition of sodium citrate

Drying

Gentle milling

Powder

Add of water

Dough  
25% water

Extrusion

Cutting

Drying 24h/25°C

Packaging

# Argua



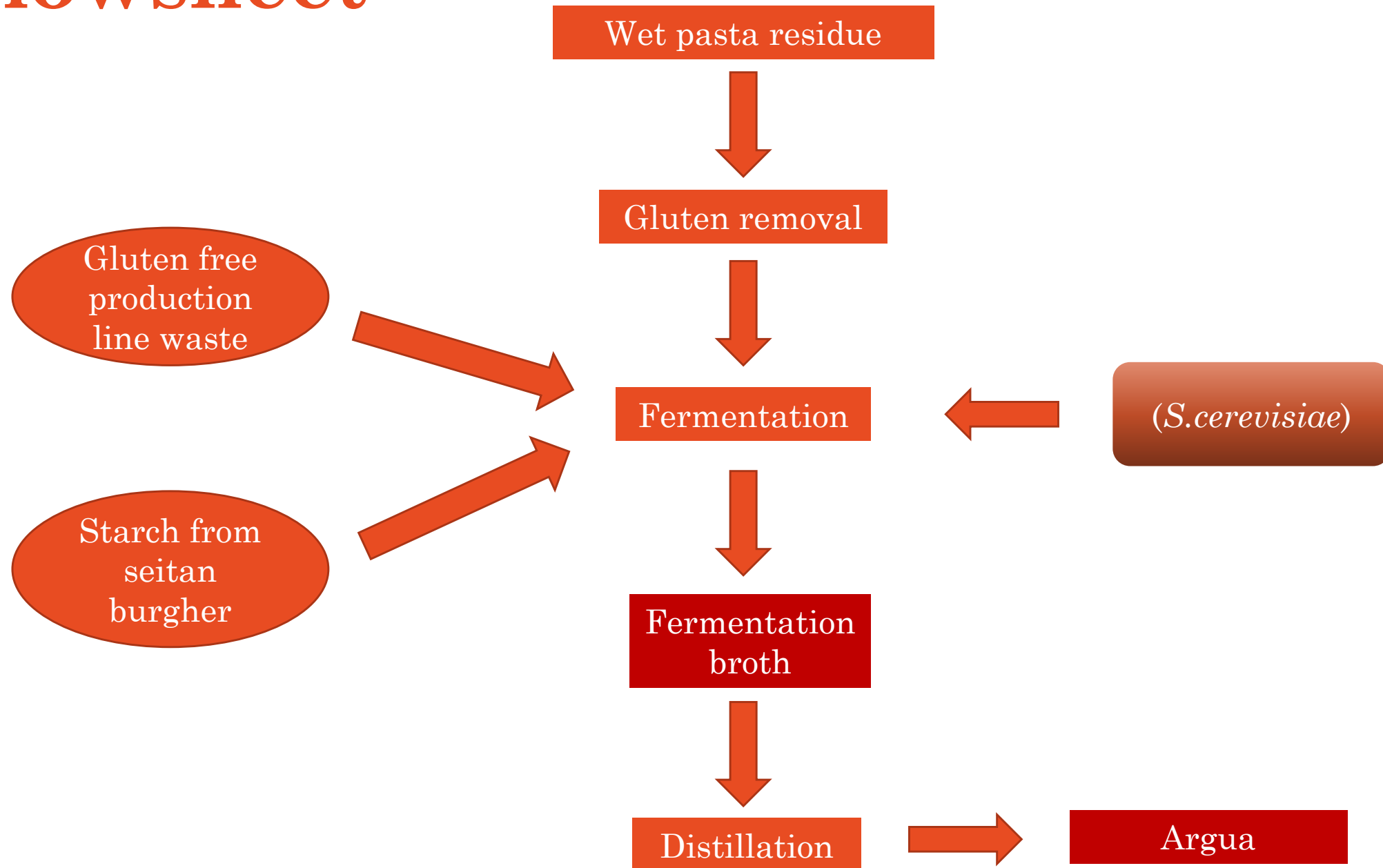
Brand new product

Direct relationship with our other products

Distillation plant required

Perfect for Abruzzo region

# Flowsheet



*Thank You  
For Your Attention*

