

**ZOORIZ®**lettiera  
zootecnica  
sterilizzata**FLORIZ®**ammendante  
agricolo e  
biostrato**BIORIZ®**filtrante naturale  
per liquidi  
alimentari**ECORIZ®**ammendante  
vegetale  
semplice**CHEMIRIZ®**supporto  
vegetale  
naturale

## THE RICE HUSK

The rice husks are the external hard protecting coverings of grains of rice. The husk protects the seed during the growing season, since it is formed from hard materials, including opaline silica and lignin. This product is obtained through a process called “dehulling”, during this process, the hulls are removed from the raw rice grain to reveal whole brown rice, which may then sometimes be milled further to remove the bran layer, resulting in white rice.

Our rice husks (BIORIZ) undergoes a further processing: the steam-sterilization. The sterilization process occurs when the rice husk is still an integral part of the rice grain.

This processing enables the rice mills to obtain a particular kind of rice called “Parboiled” resistant to longer cooking times and with greater preservation capabilities. The rough rice is soaked in large tanks of hot water, then undergoes high temperature steam (130 °C approx.) vacuum treatment and finally is rapidly dried. In this final and only stage of the cooking process the rice husk is sterilized without any pesticides or weed killers which may have been present before harvesting and is ready for the final process of separation from the rice grain, dedusting and packaging. The rice husk is light and bulky, its density varies between 100 and 140 kg/m<sup>3</sup> and the nutrient content is poor: 3,3% of protein and 1,1% of fat, the cellulose instead constitutes 45% of the mass.

The PH is very stable and close to neutral: 7,5% (H<sub>2</sub>O).

## **GMO FREE**

**All our rice husk comes from exclusively Italian suppliers and is obtained from Italian rice.**

**All the Italian rice, is completely GMO – free, this is because there is a national law and an European legislation (EU Directive 2015/412) prohibiting this cultivation.**

## **BIORIZ®**

**Is a precious and useful aid for the filtration of beer wort, rennet and all food liquids in general.**

**BIORIZ is obtained exclusively from Italian GMO – free rice and allergens free.**

**Treatment:** sterilization by vapor cooking at 130° C, dedusted by suction and packaged in polyethylene bags.

**Fields of use:** filtration of alimentary liquids in general (wort, rennet, must, juice extraction etc.)

## **STORING CONDITIONS AND SHELF LIFE**

BIORIZ must be stored, in a covered area, away from heat and in a dry and cold place, possibly ventilated.

Damaged by moisture and temperatures above 25 °C.













The rice husk, if stored correctly and in suitable areas, has a long shelf life, we recommend 24 months starting from the date of packaging.








# PACKAGING



All our products are packaged into 115 micron low density polyethylene transparent bags (LDPE or PE-LD), heat-sealed and micropore to ensure a good level of ventilation.

We recommend to store our packaging indoor, away from radiant heat (sun exposure) and in dry and cold place.

CODE	MATERIAL	APPLICATIONS
 OR  PET OR PETE	Polyethylene terephthalate	Clear softdrinks and beverage bottles, food packaging
 OR  HDPE OR PE-HD	High density polyethylene	Bottles (especially for food products, detergent and cosmetics), Industrial wrapping and film, sheets, plastic bags
 OR  PVC OR V	Polyvynil Chloride	Bottles, packaging film, credit cards, water containers, water pipes
 OR  LDPE OR PE-LD	Low density polyethylene	Cling film, plastic bags, flexible containers and food wrap
 PP	Polypropylene	Packaging such as yoghurt and margarine pots, sweet and snack wrappers, medical packaging, milk and beer crates, shampoo bottles
 PS	Polystyrene	Disposable hot or cold drink cups and plates, fast food clamshells, dairy product containers
 OR  OTHER OR O	All other resins and multi-materials not otherwise defined	Other resins, complex composites and laminates

	Polyethylene Terephthalate (PET)	High Density Polyethylene (HDPE)	Polyvinyl Chloride (PVC)	Low Density Polyethylene (LDPE)	Polypropylene (PP)	Polystyrene (PS)	Other Plastics
Properties	 PETE	 HDPE	 V	 LDPE	 PP	 PS	 OTHER
Clarity	Clear	Translucent	Clear	Translucent	Translucent	Clear	Plastic ID Code "7" is for other plastics
Moisture Barrier	Fair to Good	Good to Excellent	Fair	Good	Good to Excellent	Poor to Fair	
Oxygen Barrier	Good	Poor	Good	Poor	Poor	Fair	
Max. Temperature	120F	145F	140F	120F	165F	150F	
Rigidity	Moderate to High	Moderate	Moderate to High	Low	Moderate to High	Moderate to High	
Resistance to Impact	Good to Excellent	Good to Excellent	Fair to Good	Excellent	Poor to Good	Poor to Good	
Resistance to Heat	Poor to fair	Good	Poor to Fair	Fair	Good	Fair	
Resistance to Cold	Good	Excellent	Fair	Excellent	Poor to Fair	Poor	
Resistance to Sunlight	Good	Fair	Poor to Good	Fair	Fair	Poor to Fair	

# COMPOSITION TABLES OF RICE HUSKS

Nutrient (dry basis)	IR29	IR32
Crude fibre (%)	36.0	38.3
Neutral detergent fibre (NDF) (%)	84.3	83.9
Acid detergent fibre (ADF) (%)	78.4	80.5
Hemicellulose (%)	5.9	3.4
Cellulose (%)	34.1	37.0
Cutin (%)	6.7	5.7
Permanganate lignin (%)	11.7	13.3
Insoluble silica (%)	25.9	24.5
Energy content (j/g)	12.9	13.1
Crude protein (% N x 6.25)	1.9	1.8
Lysine (g/16 g N)	4.4	3.9
Proline (g/16 g N)	12.2	10.9

<u>Cadmium</u>	<u>Mg/kg</u>	<0,1
<u>Copper</u>	Mg/kg	<0,5
<u>Mercury</u>	Mg/kg	<0,1
<u>Nickel</u>	Mg/kg	<0,1
<u>Plumbum</u>	Mg/kg	<0,5
<u>Zink</u>	Mg/kg	<1,0
<u>Cobalt</u>	Mg/kg	<0,5
<u>Ferrum</u>	Mg/kg	<100
<u>Manganese</u>	Mg/kg	<10
<u>Selenium</u>	Mg/kg	<0,1
<u>Silicon dioxide</u>	%	12,8
<u>Humidity</u>	%	8

MEASUREMENT METHODS: PND F 16.1:2:2.2:3.46-06 / PND F 16.1:2:2.2:3.65-10 / GOST 5180-2015