

# Brewer's yeast for organic pigs

## Problem

Protein supply is a constant challenge for organic farming. Organic raw materials with high protein content are quite scarce in some regions. The search for alternative sources of protein leads to the evaluation of the organic industry by-products.

## Solution

Brewer's yeast is a by-product of beer in brewing industries. It is considered a liquid by-product (figure 1) with approximately 15% dry matter (DM). It is obtained from the anaerobic fermentation of beer, formed, among other ingredients, by *Saccharomyces cerevisiae*. Brewer's yeast has a high content of protein and vitamins of the B complex, which compensates the high transport costs due to its high water content.

## Benefits

- Yeast has a high content of protein (> 47% DM) of high biological (3.6% of lysine) and digestible value (> 85%), thus reducing the cost of feed.
- Yeast is rich in B vitamins, especially biotin and folic acid (besides vitamin B1, B2, B6, B12, PP, B5) and in vitamin D, with a content of 2000 - 5000 IU<sup>1</sup>/g DM.
- The content of phosphorus in the yeast is up to 0.8-1.3%.



**Figure 1: Yeast.** V. Rodríguez-Estévez, Universidad de Córdoba



**Figure 2: Tanks for yeast.** V. Rodríguez-Estévez, Universidad de Córdoba

## Applicability box

### Theme

Pigs

### Context

Farms close to an organic brewery.

### Application time

All year, although it is more available in spring and summer.

### Required time

None; but no more than two days of storage.

### Period of impact

None.

### Equipment

Special equipment is needed, including an automatic system for liquid feeding and two storage tanks (figure 2) so that they can be cleaned between batches.

### Best in

Sows, growers and fattening pigs.

<sup>1</sup> International Unit

- Yeast promotes animal performance and health.
- Yeast improves the quality of the carcass.

### Practical recommendation

- Two holding tanks are needed for hygiene reasons.
- Yeast deteriorates very easily, do not use the product stored over 2 days.
- It is necessary to deactivate (kill) the yeast before transporting and using it on the farm. Hence, autolyzed yeast should be used.
- Yeast is a quite seasonal product, and it cannot be stored; however, it can be added to silage mixtures as an alternative to avoid its deterioration.

### Further information

#### Video

- The video "[Liquid Feed for pigs](#)" is available from Lallemand Animal Nutrition. The video shows how liquid feed systems work.

#### Further reading

- Broadway, P.R., Carroll, J.A. and Burdick Sanchez, N.C. (2015). [Live Yeast and Yeast Cell Wall Supplements Enhance Immune Function and Performance in Food-Producing Livestock: A Review](#). *Microorganisms*, Vol 3 (3), pp. 417-427.
- De Blas, C., Mateos, G.G. and Rebollar, P.G. (2010). [Levadura de cerveza](#). In: *Tablas FEDNA de composición y valor nutritivo de los alimentos para la fabricación de piensos compuestos (3ª ed.)* Fundación Española para el Desarrollo de la Nutrición Animal. Madrid. 502 pp.
- Heuzé, V., Thiollet, H., Tran, G., Edouard, N., Lessire, M., Lebas, F. (2018). [Brewers yeast](#). Feedipedia, a programme by INRA, CIRAD, AFZ and FAO.

#### Weblinks

- Further documents can be found on the [Organic Farm Knowledge](#) website.

### About this practice abstract and OK-Net EcoFeed

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**Project website:** [ok-net-ecofeed.eu](http://ok-net-ecofeed.eu)

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