

## **Progut<sup>®</sup> – the 3 in one patented yeast hydrolyzate. Efficient and scientifically proven:**

### ***Published articles, monogastric animals:***

Hasan S., Junnikkala S., Peltoniemi O., Paulin L., Lyyski A., Vuorenmaa J. and Oliviero C. (2018). Dietary supplementation with yeast hydrolysate in pregnancy does influence colostrum yield, gut microbiota of sow and piglets after birth. *Plos One*. (<https://doi.org/10.1371/journal.pone.0197586>)

Jensen K., Damgaard B., Andresen L., Jørgensen, E. and Carstensen E. (2013). Prevention of post weaning diarrhea by a *Saccharomyces cerevisiae* derived product based on whole yeast. *Animal Feed Science and Technology* 183: 29–39.

Kim, M., Seo, J., Yun, C. Kang, S., Ko, J. and Ha, J. (2011). Effects of hydrolyzed yeast supplementation in calf starter on immune responses to vaccine challenge in neonatal calves. *Animal* 5:953-960.

Molist F., van Eerden E., Parmentier H.K., Vuorenmaa J. (2014). Effects of inclusion of hydrolyzed yeast on the immune response and performance of piglets after weaning. *Animal Feed Science and Technology* 195: 136–141.

Vahtovuo J., Korkeamäki, M., Munukka, E., Hämeenoja, P. and Vuorenmaa, J. (2007). Microbial balance index – a view on the intestinal microbiota. *Livestock Science* 109: 174-178.

### ***Published articles, ruminants***

Gaffney D., Sheehy M., Vuorenmaa J., Fahey A. (2014) The effect of supplementing dairy cows with a hydrolyzed yeast product (ProgutRumen) on milk production and somatic cell scores (Abstract). *Journal of Animal Science*. Vol. 92, E-Suppl. 2/J. Dairy Sci. Vol. 97, E-Suppl., 789.

Kettunen, H., Vuorenmaa, J., Gaffney, D. and Apajalahti, J. (2016). Yeast hydrolysate product enhances ruminal fermentation in vitro. *Journal of Applied Animal Nutrition*, Vol. 4; e1; page 1 of 7.

Meissner, H., Henning, P. Leeuw, K-J., Hagg, F., Horn, C., Kettunen, A. and Apajalahti, J. (2014). Efficacy and mode of action of selected non-ionophore antibiotics and direct-fed microbials in relation to *Megasphaera elsdenii* NCIMB 41125 during in vitro fermentation of an acidosis-causing substrate. *Livestock Science* 162: 115-125.

### ***Posters:***

Gaffney D., Sheehy M., Vuorenmaa J., Fahey A. (2014) The effect of supplementing dairy cows with a hydrolyzed yeast product (ProgutRumen) on milk production and somatic cell scores. At: *Joint Annual Meeting 2014*, Kansas City, USA.

Hasan S., Junnikkala S., Peltoniemi O., Oliviero C. (2017): Dietary supplementation of pregnancy diet with yeast derivative can influence colostrum yield, colostrum composition and gut microbiota. At: *Gut Health Symposium 2017*, St Louis, USA.

Molist, F., van Eerden, E., Parmentiers, H. and Vuorenmaa, J. (2014). Effects of inclusion of hydrolyzed yeast on the immune response and performance of piglets after weaning. At: *The 6th European Symposium on Porcine Health Management 2014*, Sorrento, Italy.

Oliviero C, Hasan S, Junnikkala S, Peltoniemi O. (2016) Effect of a late pregnancy diet supplemented with hydrolysed yeast on sow colostrum yield and its composition. At: *European Symposium of Domestic Animal Reproduction 2016*, Lisbon, Portugal.

Vahtovuori, J., Korkeamäki, M., Munukka, E., Valaja, J., Venäläinen, E., Vuorenmaa, J., Hameenoja, E. and Helander, E. (2006). Intestinal microbiota and feed design. At: *the 12th European Poultry Congress 2006*, Verona, Italy.

## Progut®

### PRODUCT DATA

#### SPECIFICATION

Updated 26.02.2018

### FEED MATERIAL

- Processed yeast hydrolysate (*Saccharomyces cerevisiae*)
- Patented (EP 1387620) hydrolysis process
- Contains all bioactive elements of yeast cell

### FEEDING INSTRUCTIONS / RECOMMENDED DOSAGE

|  |                      |
|--|----------------------|
| Piglet & sow feeds                                 | 1 – 2 kg/t of feed   |
| Poultry feeds                                      | 0.5 – 1 kg/t of feed |
| Calf feeds   | 1 – 2 kg/t of feed   |
| Can also be used in feeds for other animal species |                      |

### INGREDIENTS

*Saccharomyces cerevisiae*, anti-caking agent sepiolite (E 562)  
(Final product contains sodium phosphate salts from hydrolysis process)

### CHEMICAL PROPERTIES

|                    |        |                 |
|--------------------|--------|-----------------|
| Moisture           | 6.0 %  | (≤ 7.0 %)       |
| Crude protein      | 32.0 % | (29.0 – 38.0 %) |
| Ash                | 22.5 % | (19.7 – 25.3 %) |
| Crude fat          | 2.0 %  |                 |
| Crude fiber        | 0.2 %  |                 |
| Non-fibre extracts | 34.3 % |                 |
| Calcium (Ca)       | 0.2 %  |                 |
| Phosphorus (P)     | 3.7 %  |                 |
| Sodium (Na)        | 1.3 %  |                 |



## Amino acids (%) as fed:

|                       |       |
|-----------------------|-------|
| Lysine                | 1.6 % |
| Methionine + cysteine | 1.3 % |
| Threonine             | 1.2 % |

**UNDESIRABLE SUBSTANCES ACCORDING TO EU LEGISLATION (EU 2002/32)**

|            |                  |
|------------|------------------|
| As         | max 2 ppm        |
| Cd         | max 1 ppm        |
| Pb         | max 5 ppm        |
| Hg         | max 0.1 ppm      |
| Salmonella | negative in 25 g |

**PHYSICAL PROPERTIES**

|                           |         |
|---------------------------|---------|
| Free flowing, fine powder |         |
| Volume weight             | 700 g/l |

**STORAGE**

Store in a cool, dry place away from sunlight.

**SHELF LIFE**

Minimum shelf life is 24 months from the production date.

**PACKAGING**

Bags 25 kg and 750 kg

| net / kg | pcs / pallet | kg / pallet |
|----------|--------------|-------------|
| 25       | 30           | 750         |
| 750      | 1            | 750         |

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