

Generally recommended dosage rates

Broilers and turkey	
Starter period	1,0 kg/ t of feed
Grower period	0,75 kg/ t of feed
Finisher period	0,5 kg/ t of feed
Layers and poultry	
Layers: pre-laying (15-17 weeks) and phase one	1,0 kg/ t of feed
Poultry parent stock: during hatching period	1,0 kg/ t of feed

*) for more detailed feeding instructions, please contact our distributor

Together towards success!

Suomen Rehu is the feed division of Hankkija-Maatalous Oy, an agricultural trading company and the leading feed producer in Finland. The aim of our operations is to provide safe and effective product solutions for the well-being of animals, human and the environment.

The access to unique research and development resources has resulted in a number of patented technologies and products, such as Progut® – new generation yeast feed ingredient.

More about the company at www.suomenrehu.com



Scientifically proven gut health solution

Tested, effective, patented
ingredient for poultry feeds

progut®



Progut® – a new generation yeast product

Product® is a unique and patented feed ingredient, that has been scientifically proven and has a well documented mode of action.

In trials*, the application of Progut in poultry feeds has led to improved vitality, feed utilization, better productivity and growth.

The only patented hydrolysed yeast for poultry!

The product has successfully passed through different types of trials:

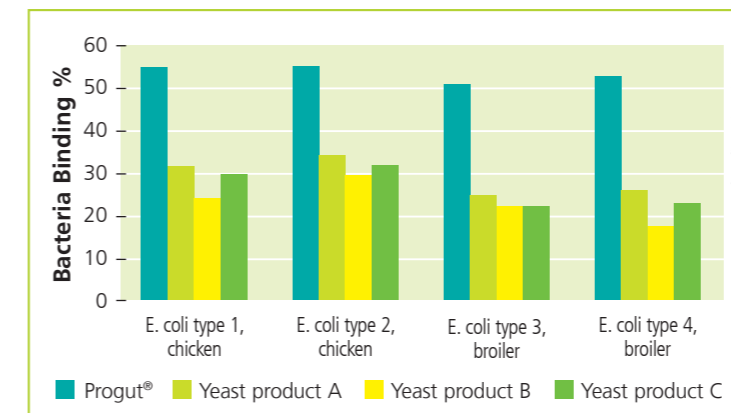
In vitro trials: In laboratory trials Progut® has shown its ability to prevent *E.coli* attachment to gut mucus, to modify intestinal microbiota and stimulate immunity.

Trials with animal models: In these trials Progut® has consistently demonstrated beneficial effects on intestinal microbiota and immunity with different animal species. Modes of action have been scientifically documented.

Production trials carried out in a number of countries have shown that Progut® has improved performance and intestinal health of poultry, leading to better economic results.

Better intestinal health and immunity improves performance and profitability in poultry production

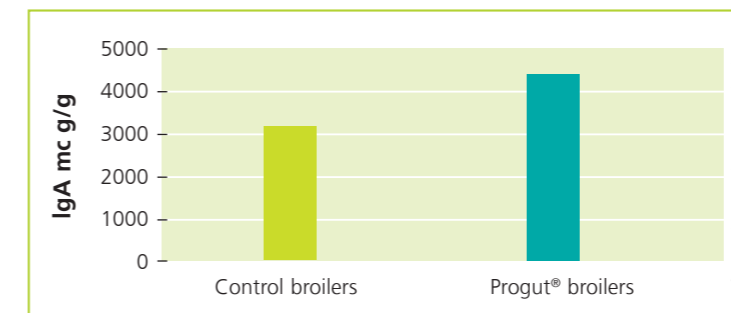
The efficacy of Progut® to bind poultry specific pathogenic *E.coli*



Pathogenic bacteria, like *E.coli* and salmonella, has to attach to gut mucus to be able to multiply and produce toxins. The attachment is targeted at certain sugar structures in the gut mucus. By including similar sugar structures in the feed, it is possible to decrease their attachment.

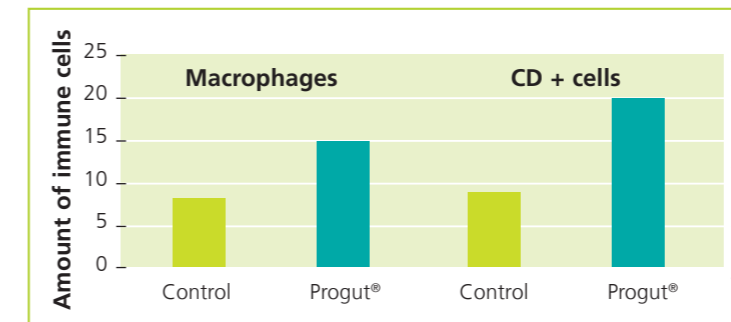
Trials have shown that yeast products have different *E. coli* binding ability. Due to the patented process Progut® contains plenty of the right sugar structures in bioactive soluble form and has in trials revealed efficiency in binding poultry specific pathogenic *E.coli*.

Progut® has supported the natural immunity in the gut



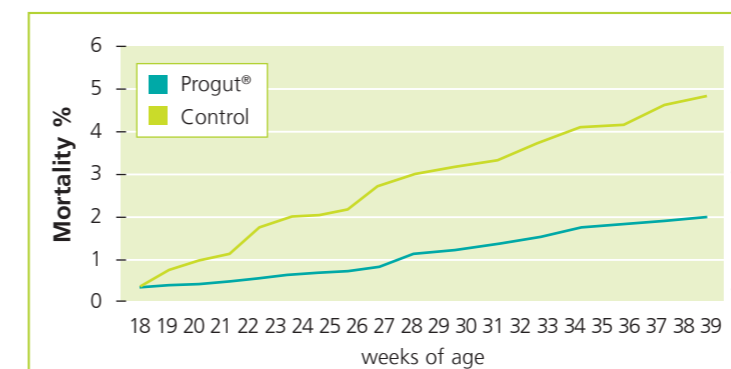
The intestinal tissue plays a central role in the immunological effects of the body. Early immunomaturization of young animals with good immunoglobulin production and sufficient immune cell population in the gut help them to fight against pathogens.

Progut® has in trials increased the production of immunoglobulin A (IgA) in the gut. Improved IgA production decreases disease stress and correlates positively with body weight of animals in challenged environments.



Progut® has also increased the number of immunocells (lymphocytes, magrophages) in the gut epithelium, which suggests earlier immunomaturization and improved protection against pathogens.

Progut® in layer feeds has improved liveability



The effects of earlier immune competence and prevention of *E.coli* attachment in poultry can be seen in improved liveability, reduced diarrhoea frequency and lower incidences of wet litter and dirty egg problems.

The observed effects in trials in practical production conditions include also enhanced growth, laying %, and feed conversion ratio, which can lead to better production profitability.

Progut® is very stable in storage and feed processing.

*)

TRIALS WITH LAYERS:
 Private Research Farm, Switzerland 2002 - significantly lower mortality, higher laying %
 Sagra Research Centre, Latvia 2003 - significantly better laying and FCR
 Wageningen University, the Netherlands 2004 - pullets: lower lesion score after *E.coli* challenge
 Schothorst Feed Research, the Netherlands 2008 - improved recovery from chronic enteritis

TRIALS WITH BROILERS:
 Agrifood Research, Finland 2002 - significantly better growth
 Lithuanian Veterinary Academy, Lithuania 2003 - significantly lower mortality
 Private Research Centre, United Kingdom 2004 - significantly better FCR
 Private Research Farm, the Netherlands 2007 - significantly lower mortality and better FCR