

Dear Reader,

First of all, we would like to wish you all the very best for 2012, both professionally and personally.

Health is a word that is often used in New Year greetings.

It is also a subject that can no longer be ignored within the Dutch farming industry.

This newsletter is dedicated to animal health. What is the latest news on the use of antibiotics in intensive farming? What results have been achieved so far and what has still to be achieved? Is there an alternative to antibiotics and how do we deal with this?

It is also interesting to know how bacteria communicate with each other. This newsletter contains a brief explanation on this subject.

Also in this issue: an article concerning new information on mycotoxins.

Finally, we briefly dwell on the fish oil market.

Yours sincerely,

The EFS team

### ▶ E.F.S.-Holland acquires Toyocerin® agency

With effect from 1 October, E.F.S.-Holland has included Toyocerin® in its Benelux portfolio. This registered food additive consists of traces of the probiotic *Bacillus toyoi*. Toyocerin® can be widely used for different animal species. It acts as a bioregulator in the digestive tract and research has shown that Toyocerin® has a stimulating effect on the growth of *Lactobacillus spp.* and *Bifidobacterium spp.*, while having an inactivating effect on Gram-negative bacteria. Consequently, Toyocerin® has a positive effect on intestinal health.



Field tests have shown that Toyocerin® has significantly improved the technical results of the various animal species (including pigs, dairy cows and chickens).

### ▶ Antibiotic consumption: the current situation

Until 2009, the use of antibiotics on farms saw a significant increase. The first decrease of antibiotic consumption occurred in 2010: a decrease of 12% (compared to 2009) over approximately the same number of herd. During the first half of 2011, 32.1% less antibiotics was sold compared to the same period in 2009. It appears, therefore, that the 20% reduction for 2011 will easily be achieved, if not more.

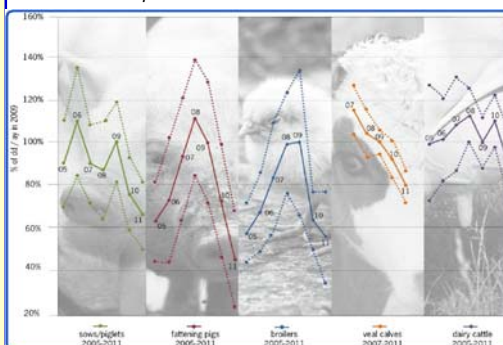


Fig. 1 Antibiotic consumption among various animal species as a % compared to 2009. (Source: MARAN website)

In consultation with farming organisations, the Dutch compound feed industry has agreed to permanently stop adding veterinary-approved medical additives to animal feed. This applies only to medicines, not to worm treatments. The ban on mixing medicines with feed was also

included in the Integrated Quality Control (IOC) system at the end of 2011.

There are no alternatives for antibiotics. In other words, the use of antibiotics cannot be reduced to zero. There are, however, possibilities to drastically reduce antibiotic consumption. Products that have a proven positive effect on animal health are pre- and probiotics. These terms are often used interchangeably, but there is definitely a difference between the two products. Prebiotics are indigestible dietary fibres that are naturally present in food products, e.g. cereals. Probiotics are live micro-organisms in food products, which are thought to be beneficial to health.

### ▶ Probiotics in animal feed

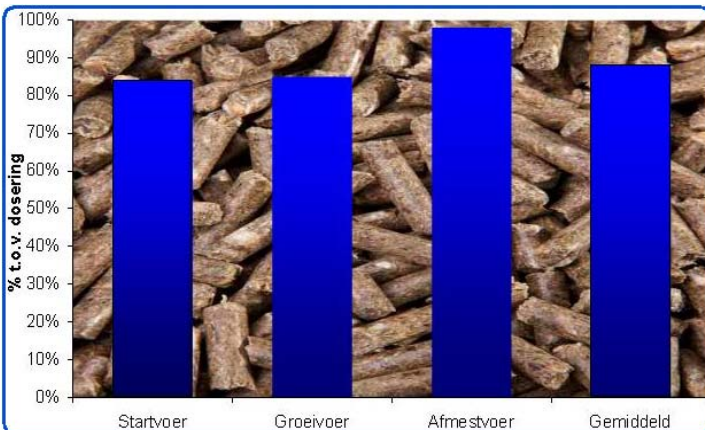
Many different products have meanwhile been brought to market under the category 'probiotics'. The vast majority of these products are administered through the drinking water in the livestock housing. This is mainly because the micro-organisms in these probiotics are not resistant to the conditions under which compoundfeed is made.

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► **Probiotica in voeders** >> Continued from page 1

The heat used in making compound feed is usually fatal to the micro-organisms present in probiotics. Consequently, this method is very rarely used.

Yet there are ways to apply probiotics to compound feed. Viable spores offer a solution. These spores are resistant to high temperatures to which they are



exposed when compressed.

Fig. 2 The presence of viable spores in compressed pig feed as a percentage compared to the initial dose. Used spores: *Bacillus cereus toyoi*.

Subsequently, the spores remain dormant until they are in a comfortable environment, such as the small intestine. Here, the spores germinate and grow into micro-organisms whereupon the effect of the probiotics begins to take effect.

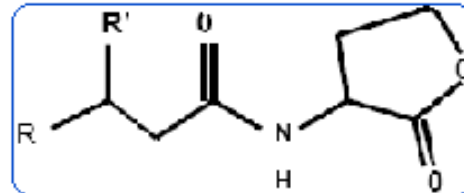
The main function of such probiotics is to reduce Gram-negative bacteria in the digestive system and to stimulate the growth of *Lactobacillus spp.* and *Bifidobacterium spp.*

► **The fish oil market**

The salmon oil market has been stable for quite some time. The world market price for fish oil is approximately \$1500 fob. The only variable at the present time is the dollar, which has decreased lately. The current rate is 1 euro = 1.29 dollar; this was 1.42 dollar at the beginning of this stable price period. The expectation is that there will be less salmon oil available until Easter owing to the lower supply of salmon for slaughter.

► **Quorum Sensing**

Bacteria in the digestive system communicate through chemical signals: Acil Homoserine lactones. The concentration of lactones is linearly related to the number of bacteria in the environment.



When the lactone concentration has reached a certain level, the Gram-negative bacteria attack

Fig. 3 Sketch of a Acil Homoserine lactone.

their host (by producing toxins, piercing the intestinal wall, etc.). The process of secretion and detection of lactones is called 'quorum sensing'. The way to control bacterial aggression is to prevent excessive concentrations of lactones. Lactones can be broken down through the use of the probiotic Toyocerin<sup>®</sup>, among others.

► **A collection of information on mycotoxins**

At the end of 2011, Biomin published a compendium containing a significant amount of information on mycotoxins. Not only does this compendium contain information on which fungus produces which toxin (s), but also which symptoms these mycotoxins cause in the various animal species. The compendium is available on request from E.F.S.-Holland.

► **Sanigut in animal feed**

Sanigut is the brand name for St. John's bread, which is made in Spain. It is rich in mannan polysaccharides and is often used in baby foods to promote intestinal health. For that same purpose, Sanigut is used in the feed of young animals (pigs and calves). The high binding capacity of Sanigut enables energy-rich products (e.g. fats and oils) to be added to milk powders without them becoming lumpy.

Sanigut can also readily be applied to pet foods. It is tasty and because the product itself has little nutritional value, it can also be applied to diet foods.

