

## MEDICATION OF PRODUCTION ANIMALS - CURE OF MALFUNCTIONING ANIMALS OR PRODUCTION SYSTEMS?

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Medication is used in all intensive animal productions. However, the increasing problems with resistant bacteria in all animal productions and in humans are supported by a number of reports. Special attention is given to the risk for transmitting food-borne (multi) resistant zoonotic agents to humans due to failure in antibiotic treatment resulting in lower cure rates or higher case fatality rates. The use of medication in humans *per se* is capable of selecting for resistance in human pathogens. Nevertheless, the amount of used medication/antimicrobials in treatment of Danish production animals goes far beyond the amount used for human consumption.

Use of growth promoters was banned by the 31st of August in 1999 in Denmark and an increase in the use of therapeutic medication was predicted. Nevertheless, the consumption figures of oral medication from 1999 demonstrated a clear reduction to 37 tons active substance, succeeded by a 50% increase in 2000 to 56 tons.

The increase in consumption has not been followed by a similarly increased mortality, e.g. illustrated by the number of rendered animals, increased use of injection medicine for veterinary treatments of diseased animals, or increased number of remarks on the carcasses from the slaughterhouses.

The increased use of antibiotics from 1999 to 2000 is predominantly for oral medication on a farm/herd basis. This type of medication results first of all in medicating healthy animals together with diseased animals. Furthermore, the efficiency reports of which the individual farmer is comparing his own production results are all based on the maximum achievable growth - a result that often has been achieved by use of medication. The natural limit of body-growth has been pushed upwards during the last decades.

Detailed studies of the mink production in 1999 and 2000 have revealed that strategic use of antibiotics is taking place especially in the weaning and early growth period. However, faecal samples have demonstrated that presence of haemolytic *Staphylococci* and haemolytic *E. coli* was neither associated with presence of clinical symptoms of diarrhoea nor with increased mortality in the same period.

But, in order to obtain the maximal growth rate in the weaning and growth period mink kits are feed *ad libitum*. Furthermore, the composition of the feed is based on test results in order to achieve the maximum growth and not taking the health of the animals sufficiently into account. Hence, the capacity of growth impairs the health of the animals.

Similar strategies are used in other production systems, where the efficiency of the farm is measured on the basis of the maximum growth rate due to high fixed costs. Medication in animal production is facing its limits and relevant economic alternatives have to be developed and the strategy for the future must concentrate on using medication only for clinically diseased animals and not as a strategic treatment of the whole herd in order to maximise growth.