The use of oregano to naturally increase efficiency in dairy farming

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Since the 1950s, scientists have known about the medical efficacy of certain plants. Still, they only found their way into modern livestock farming about 10 years ago. Today, they are not only found in the organic sector.

However, hardly any plant is useful simply fresh from the field or dried. The plants are generally elaborately distilled or fermented, in order to extract the essential oils as a base for a suitable organic compound. In the laboratory, the inhibition zone test delivers proof of efficacy – the larger the clear circle, the more effective the compound.

In objective comparative tests with several natural compounds, prepared oregano was proven to be the most effective biological agent. The oil extracted from the plant inhibited 19 of 25 investigated bacterial strains, showed good efficacy against four strains, and only had to admit defeat in two cases. Thus, oregano is considered to be a natural broad-spectrum bacteria killer.

Broad spectrum killer

The advantage of oregano compared to other compounds is the relatively low effective dose and the neutral flavour in meat, milk and eggs. The low dose is especially remarkable, for example, for use to control fungi. The dose required to eliminate 99.9% of Candida is 111 times lower than with the standard medication (calcium-magnesium-caprylate). In other cases, a concentration of 0.1% or 0.01% is already sufficient to eliminate 90%.

The laboratory values can generally be transferred to practical use in cattle farming, however, some restrictions may apply.

Although oregano is very effective at inhibiting the spreading of salmonella, in the barn, these bacteria are not only found in the livestock, but also in alternate hosts, which makes control more difficult.

This did not detract from the triumph of this natural product. Oregano is being used in commercial livestock farming more than ever. Incidentally, it is used mainly for prevention until slaughtering, since it is possible to use without altering the flavour of the animal product and without recording in the medication log. As a side effect, oregano stimulates the animal's appetite and prevents premature spoilage of the feed. Oregano also leaves no detectable flavour in milk and milk products.

Several manufacturers share the market. The German company Dostofarm was one of the first to work with the processing of oregano for livestock farming.

Today, the company is the only one to offer natural compounds as medicine whose efficacy is confirmed according to the German Medicines Law. In terms of costs, the conversion to natural products is economical, as demonstrated by numerous examples from organic and conventional livestock farming.

The administration is simple, since the active substance is only added to the feed or drinking water. There is no danger of an overdose and there are no known cases of resistance.

Intestinal stability

Oregano has also proven itself for preventative and therapeutic use to stabilise the intestines of barn animals. Compared to conventional compounds, oregano is even usually more economical and as a bonus, it does not pose a health hazard. A study shows that oregano is very effective when administered as a feed supplement.

Oregano was given to a group of calves (43 animals) that had diarrhoea. After one single treatment, 58% of the animals were already free of symptoms. The rest of the animals were healed after the second administration. Although these results were also obtained in the control group, they were only obtained with the use of a hard 'chemical cocktail' consisting of Baytril, Bacolam or Biosol.

Diarrhoeal disease is generally caused by infections, parasites or bacterial toxins. It can be recognised by frequent bowel movements that tend to be of liquid consistence and sometimes severe pain in the animals.

Diarrhoea requires immediate treatment, since fluids and minerals are flushed out of the body due to the reduced water absorbing capacity of the intestinal cells. Dehydration and loss of electrolytes could ultimately lead to the death of the animal.

Respiratory disease

Another field of application is respiratory disease caused by bacteria or viruses. However, the animals are only susceptible when the farmer creates the conditions that lead to infection. For this reason, the surrounding conditions should be checked before using medication (or oregano as a substitute). A crucial point here is insufficient hygiene. Direct contact between persons and the animals should be restricted as much as possible in order to reduce the introduction of pathogens.

Also, reducing person traffic through all the operating areas can help to prevent the spread of existing pathogens. The animals themselves are also carriers. It is always risky to freshen up the population with purchased animals. If it cannot be avoided, animals should only be bought from one or few (known) suppliers, which restricts the spectrum of potential pathogens.

Stress factors such as draughts through doors or windows that do not close properly or uncoordinated opening of these may promote the occurrence of disease. For this reason, ventilation should be optimally adjusted. This keeps the air temperature constant, so that the animal's organism does not need to mobilise its reserves to compensate for cooling. Cleanliness is always

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key. In the barn, this means that droppings should not be left to lie longer than necessary. Therefore, the litter has to be changed as often as required to keep the air free of ammonia. Pay attention to dust in general, as it has a highly irritating effect. The primary stress factors also include the mobilisation of the population. Thus, changes of building and transportation should be avoided as much as possible. Separate animals that disturb the population due to hierarchy conflicts. Altogether, it is important to protect the animals' immune system and mucous membranes. This also prevents secondary diseases, for example, of the intestinal tract. The majority of these measures can be accomplished without additional costs, simply by reorganising the operating procedures accordingly.

If one wants to reduce the risks even more, the biological oregano compounds can be added to the drinking water or sprinkled around the barn. Parallel to this, the animals can also be immunised. Antibiotics should only be administered if a large portion of the population is infected.

Meanwhile, organic farmers must continue to use natural compounds. In many cases, however, these have proven to be just as effective. In addition, they can be used up to slaughter. Those who implement these preventative measures could save a lot of money. Respiratory disease not only counts among the most frequent diseases, but also among those that cause the most economic losses, since they inhibit animal growth.

Appetite stimulating effect

In addition to use for acute clinical pictures, oregano has also proven itself to be effective against constipation, flatulence and loss of appetite. The latter is a welcome side effect of the treatment. It can be attributed to its aromatic properties, which intensify the flavour of the feed and thus increase the feeding instinct. The effect was observed in all of the examined animal species. The effort is worthwhile from an economical point of view, since the increased yields generally are opposed to relatively low costs.

In this context, there is also the use of oregano in total mix rations (TMR). The homogeneous distribution system consisting of basic and concentrated feeds provides the animals with the required components and simplifies animal maintenance. Although the mixture produced in the feed mixer improves the return per unit, it is not without its problems in the summer. This is due to fermentation processes in the ration that reduce the animal's feed intake.

Added oregano acts against this. Certain components of the plant provoke a biochemical reaction that reduces the reheating of the feed. The aromatic addition also

increases the palatability of the feed and thus increases the animal's appetite. At the same time, the stimulation of saliva improves feed conversion and animal health. Saliva contains sodium bicarbonate, which has an acid moderating effect in the rumen. The required amount of oregano administered in powder form is low.

Climate protection

Only a few months ago, scientists from the Pennsylvania State University in the USA surprised the world with the discovery that cattle farmers can make a great contribution to climate protection with little effort.

In a study carried out on Holstein cows, it was shown that a small amount of oregano in the feed can reduce the exhalation of methane gas from animal stomachs by 40%. Undesirable side effects were not observed. On the contrary, the cows increased the fat corrected milk production by almost 4%.

The quantity of fresh oregano of 500g fed to each cow on a daily basis (dosage about 1:40) can be replaced by processed oregano from an agricultural specialist shop, so that only a fraction of the amount is required.

Methane is an odourless gas that is produced by microbiological degradation processes in the stomach of almost all mammals. It is especially dangerous to the climate, since it has about 23 times more greenhouse potential than carbon dioxide.

According to the calculations by the United Nations, the harmful climate effects caused by methane from livestock farming even exceed those of the entire transport sector.

Conclusion

The examples show that cattle farmers today have good alternatives to the often problematic chemical compounds for the treatment of disease and to increase performance. It is not really surprising that oregano compounds are best suited for the purpose. The positive effects of this plant have been known for centuries.

Although their use had decreased due to the industrial production of antibiotics and other chemical products, their use has fortunately been increasing again due to the worldwide trend towards healthy food that is produced in an animal friendly way, as well as the increasing yield pressure. ■