LIFEWATER SCIENCES

Pro life™
Animal Vitalizer

Effective in increasing the grade and quality of the meat, antibiotic usage can be decreased, improvement in health and immune system, growth rate enhancement, and overall decrease in mortality rate.

⊕ ProLife Animal Vitalizer has been tested and verified in Japan

Chitosan PRO™

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Pro life™
Animal Vitalizer

Product for Animal Health and Immune "Activation"

Made from highly-purified D-glucosamine and
N-acetyl-D-glucosamine fibrous material extracted from sea shells

ProLife Animal Vitalizer™ *Effects**

Chitosan's effects on the livestock.

Some of the great effects by chitosan for livestock can be summarized as follows:

1. General effects on the livestock including cattle, pigs, sheep, horses and chickens

   - Improvement of the immune system
   - Prevention of disease and illness in respiratory and digestive organs.

   In tests it was found that chitosan has a remarkable effect on a calf and shoat in which delicate care should be taken. Diarrhea and pneumonia were remarkably decreased.

   In effect, lesser amount of antibiotics should be required particularly when the animals are just born and before reaching certain stable aged condition.

   It is believed that it will have good effects on pets such as dogs and cats because of the test results referred to above.

2. Improvement of the conception rate of cattle
   It was proved that cattle conception production is more effective with chitosan solution injected into their wombs. It is believed that chitosan should induce estrus, keep wombs in a good condition, and enhance the function of ovary.
   These effects could appear on other animals including horses and sheep.

   This effect is backed up by the testimonials that chickens have produced more eggs more quickly with chitosan solution diluted by ceramic balls (WET) technology.*

3. Effects on mastitis treatment
   It is widely known that chitosan will be very effective in making mastitis therapy of dairy cows.

There are several ways of providing chitosan to livestock: tablets, capsules, dry powder, and liquid solution with suggested dilution rate and can be mixed with the feeding.

Also, it should be noted that chitosan solution is effective for fish farm because the same effect can be expected as in the livestock.

*Experience additional benefits when using ProLife Animal Vitalizer
with LifeWater Sciences WET ceramic ore technology.

How ProLife Animal Vitalizer differs from other chitosan products ?

- Our Chitosan is the first chitosan in the world which can be perfectly water soluble. Chitosan is usually not water soluble and there are little chitosan products which can be 100% water-soluble.

- It is very low-molecule so that it can be absorbed into human or animal body and the plants very easily. Chitosan is usually high-molecule so it is rather difficult for it to go into human or animal body or the plants.

- Concentration of our Chitosan can be changed so easily that it can create different type of products for each application. This means that our chitosan has much more possibility of having different applications commercially.

- Our Chitosan is 100 % made from shrimps and crab shells caught in South-Western of the Japan Sea and it is made in a first-class factory located in Kyushu (100% Made in Japan). It is widely known that chitosan does not harm people, pets, wildlife, or the environment when used according to label directions and our Chitosan can be said to be perfectly safe for human and other livings in the world.

- Because of uniqueness of our Chitosan being very low-molecule, it can be easily and smoothly be absorbed so it will give much more positive effect than other chitosan products. Also, it is very handy in making solution in the proper dilution because our Chitosan is 100% water soluble.

It is commonly known that our chitosan can cure different types of illness or diseases. We have not reached the stage of our products being recognized as a medication, but there have been so many reports as to such effects for years. What has been considered is that our chitosan has the effects of preventing harmful material including bacteria from going into the body and it is confirmed that our Chitosan has detoxification effects which can actually kill harmful or alien substances.

It is also believed that our Chitosan has the effect of developing and improving immune system. Irrespective, most of those effects mentioned above apply for animal bodies so it is reported that in some cattle farms or poultry farm much less of or very little of antibiotic substance have been used.

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Animal Vitalizer

How to Prevent Loss of Livestock Due to Chitosan.

Japan Patent Office (JP)
International Patent 9-167597

Claims

[1]Claim 1 was orally administered to animals with chitosan, the method of prevention, which is characterized by loss of livestock to prevent infection.
[2] The method of claim prevention of loss of livestock due to infectious diseases claim 1, wherein the respiratory and digestive.
[3] The method of claim 2, wherein preventing loss of livestock and livestock is a weak claim, and a weakened immune system.
[4] The method of claim 4 to prevent the loss of livestock is slaughtered according to claim 3 young.
[5] The method of claim 5 to prevent loss of livestock in claim 4, wherein the calf.
[6] Comprising 6 claims 1 oral chitosan used in the method described in the prevention of loss of five animals.
[7] Claim 7 oral liquid formulation of claim 6, wherein the chitosan.

DETAILED DESCRIPTION OF THE INVENTION

[0001] The present invention relates to a method of preventing loss of livestock due to the prevention of infectious diseases in domestic animals with oral administration of chitosan, a method for preventing loss of livestock.

[0002] - ART is a natural polysaccharide chitosan, crab usually alkali treatment of chitin obtained from shellfish such as shrimp, etc., obtained by enzymatic treatment due to deacetylation. More specifically, crab, shrimp as raw materials, proteins, chitin deacetylation without calcium addition, deacetylation degree (the ratio of glucosamine residues in carbohydrates) is 50% or more soluble in dilute acid now refers to.

[0003] for the prevention of infectious diseases of livestock, has traditionally been a way to make animal feed additives, antibiotics as additives (especially Hiraku Akira 46-4380, 51-21997 special Akira Tadashi, Akira Patent 52-130925, Akira Patent 54-52731, Akira Patent 54-70289, Akira Patent Application 55-160767), Lactobacillus (Patent 07-126178), yeast

(Patent 08-283175), milk fermented colostrum (Hiraku Akira Special 55-19002) are known. These methods are not always happy or not provide cost-effective in terms of high cost, the cost is a problem not effective enough and cheap.

[0004] Problems to be solved by the Invention of cessation of growth delay and incidence of pneumonia and bacterial diarrhea, livestock or death is a major problem for dairy farmers. The young animal after weaning, especially after childbirth is often terminated in death cases with frequent diarrhea and bacterial pneumonia. That many cases fall into this disease, growth retardation due to the prevalence and economic losses that are big. For animals who develop bacterial pneumonia and diarrhea, but is made and antibiotic therapy, leading to a rise in production costs. In addition, there will be added to the feed and antibiotics to prevent this disease, workability, cost, and lack of the rest period. So we can prevent infections, there is no problem in workability and cost-effective drug holidays, loss prevention measures have been longing for livestock .

[0005] [MEANS FOR SOLVING PROBLEMS] The present inventors is a result of intensive studies to solve the above problem, by oral administration of chitosan livestock surprisingly found that preventable infections, the present invention was completed.

[0006] [] An embodiment of the present invention is described in detail as follows. The invention is administered orally to animals chitosan is a way to prevent loss of livestock by preventing infection. Delay and loss and death means the stunt. As a type of infection in the present invention but by a variety of animals in the colonization of microorganisms to invade a host organism, which means all of the disease to grow. Found effective in preventing respiratory and digestive infections, particularly in infectious diseases.

[0007] As in the present invention is a livestock cattle, horses, particularly by way of limitation, and the like are not pigs and chickens. Chitosan is effective in preventing infections caused by domestic animals, have a weakened immune system in adult animals, young animal is found in the stronger and weaker immunity. In addition, infection is a significant protective effect in calves.

[0008] The shape of the oral form of the invention is chitosan tablets, pills, granules, fine granules, powders, semi-solids, liquids, capsules and there are cheaper solutions are handled, especially when added to feed and uniformly mixed.

[0009] As a method of oral administration of chitosan, there is a method of administering the feed or drinking water mixed with chitosan and a method of administering an oral chitosan directly into the animals. The dose of chitosan as 200 ~ 1000mg / head / day. As the treatment period but are not limited to, the expected effects, it is necessary to continue to be given a period of oral chitosan or chitosan-containing diet. The prevention of calf diarrhea or pneumonia for example, as shown in the following Examples 10 to 14 days by oral administration, can exert its effects.

[0010] EXAMPLES The invention is further explained in detail to give the following examples, but to clarify the effect of the invention, which are illustrative only, not intended to be limited by the scope of the invention are not.

[0011] Example 1 (preparation of oral liquid) Chitosan bulk powder 4g 600 ~ 700ml of water swelling, and 2ml acetic acid was added, then stirred to dissolve the total amount of water to 1L, liquid oral chitosan was obtained. Were subjected to the following examples.

[0012] EXAMPLE-old child in three cattle farms - for 10 days, oral chitosan 50mL (200mg chitosan content) mixed with milk twice a day, and was given one week (chitosan treatment group). Calves are not treated with chitosan as a control (control group) for three head to head all six Salmonella artificial intravenously 10^{9} Infected, symptoms of each individual was observed thereafter. Treated group oral administration of chitosan was continued two weeks later. The control group showed symptoms of pneumonia were treated with antibiotics. Chitosan treated group, but fecal bacteria discharged from last clinical symptoms were rarely well Iku Shigeru.

[0013] EXAMPLE 3K chitosan treatment group and 26 head of calves introduced in 50 farms were tested as a control group of 24 horses. Chitosan Oral 50mL (200mg chitosan content) mixed with milk twice a day, was given 10 days from 14 - day deployment. Diarrhea, treatment with antibiotics such as pneumonia and to be performed as usual, was conducted to compare the frequency of therapy. In the control group showed the cases lasted for treatment, patients treated in the treated group was observed.

Example 4 [0014] T calves clinically introduced in the farm (stallion Holstein), the head 10, oral chitosan per head 1 50mL (chitosan 200mg content) milk substitute 2L mixed, twice daily, administered for 16 days, compared the effect of administration as a control group of 10 head without chitosan treatment. The excretion of diarrhea was confirmed in 10 cases of Nakagami one control group, treated group shows the respiratory and digestive symptoms were not. The average weight gain per cow during the treatment period in treatment groups 12.1kg, 7.1kg in the control plot, and the increase in body weight per day for each 426g, 259g, respectively.

[0015] [Effect of the Invention According to the invention, the chitosan-containing diet or oral dosage of chitosan as an active ingredient, by administering to livestock and drinking water to prevent infection of respiratory and digestive system of livestock available. Therefore, the loss of livestock can be prevented.

ProLife Animal Vitalizer™ *Patented Product**

ProLife Animal Vitalizer is made by a unique manufacturing process using sea shells and is patented under Japan patent laws (Patent No. 4178361).

ProLife Animal Vitalizer through research and field testing has proven to be beneficial to the animal and livestock industry due to its effectiveness in enhancing growth, diminishing of fatty parts of flesh, improving immunity and health maintenance, higher yield (lower mortality rate), and the reduction of antibiotic use.

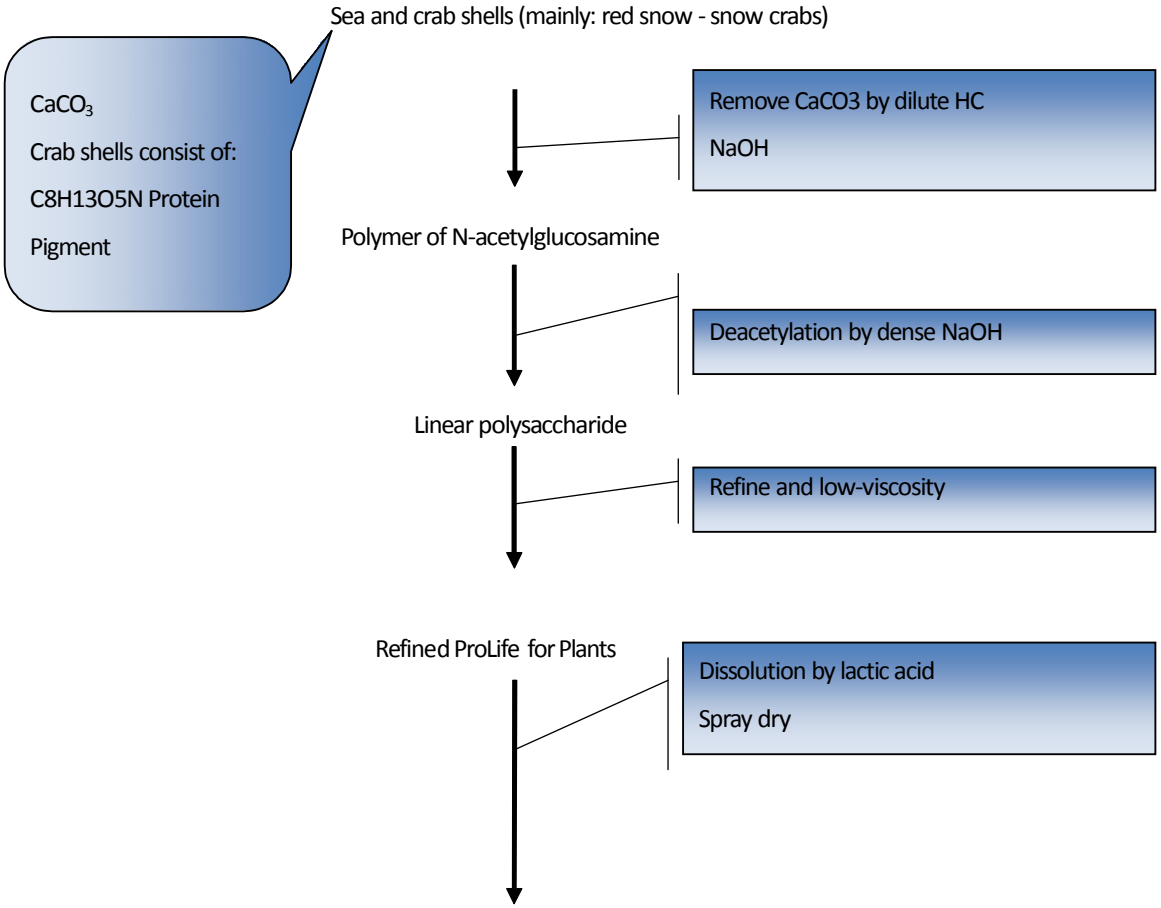
ProLife Animal Vitalizer™ *Ingredients**

- ProLife Animal Vitalizer, **in our liquid concentrated form,** is 100% water soluble chitosan utilizing proprietarily treated sea shells from the "skin" covering of crustaceans.

The following describes the process of producing ProLife Animal Vitalizer:

1. N-acetylglucosamine is extracted from crab shells discharged in the crab meat packing plants in Sakaiminato/Totori, Japan and make it into a linear polysaccharide composed of randomly distributed β-(1-4)-linked D-glucosamine (deacetylated unit) and N-acetyl-D-glucosamine (acetylated unit).
2. The long-chain polymer of N-acetylglucosamine is further refined into a polished, low-viscosity solubilized powder or concentrated liquid through a unique technology developed by our Chitosan team in Japan.

Pro life™
Animal Vitalizer



Ways to Improve the Pregnancy Rate by Animal Chitosan.

Japan Patent Office (JP
Patent 11-103717

Claims

[1] In the uterus of animal injected with chitosan, how to improve the pregnancy rate in cattle.
[2] The method of claim improve conception rate of cattle to claim 1, characterized by inducing estrus in cattle.
[3] The method of claim 3 improved conception rate of cattle to claim 1, characterized by improving livestock conditions in the endometrium.
[4] The method of claim 4 improved conception rate of cattle to claim 1, characterized in that ovarian function to improve the livestock.
[5] The method of claim improve conception rate of cattle to claim 1, wherein the bovine animal.
[6] Claims 1 to claim agents intrauterine infusion of chitosan as an active ingredient used in the method to improve the pregnancy rate of any animal described in 5.
[7] Fillers claim 7 in utero to claim 6, wherein the liquid.

DETAILED DESCRIPTION OF THE INVENTION

[0001] [Relates] The present invention relates to a method of improving livestock production, induced estrus to implantation in the uterus of the animal to chitosan to improve the state of the endometrium, by which the Improvement ovarian function, fertility of livestock on how to improve efficiency.

[0002] - ART is a natural polysaccharide chitosan, crab usually alkali treatment of chitin obtained from shellfish such as shrimp, etc., obtained by enzymatic treatment due to deacetylation. More specifically, crab, shrimp as raw materials, proteins, chitin deacetylation without calcium addition, deacetylation degree (the ratio of glucosamine residues in carbohydrates) is 50% or more soluble in dilute acid now refers to.

[0003] Today, artificial insemination and embryo transplantation in order to improve livestock productivity improvement and have become popular techniques such as embryo transfer. In particular, the importance of cattle breeding and artificial insemination and embryo transplant program to improve the productivity for meat with dairy. To do so would work correctly assumes that the fertility of livestock. However, the high capacity of livestock, malnutrition, the incidence of reproductive disorders and various other reasons of group feeding is increasing. Have been treated by antibiotics and hormones, there are many accompanied by economic loss, and there is a problem that you frequently use.

［0004] Problems to be Solved by the Invention livestock slump pregnancy rate becomes a factor exacerbating the financial health of livestock. Low fertility cows not pregnant at least three times to repeat the example (Ripitoburida) is artificial insemination fees, and loss of open period and feed cost. To improve the conception rate of technological progress as well as artificial insemination and embryo transplantation, it is important to normalize the factors of livestock lost. Therefore, rather than other hormones or antibiotics, have been eager to improve the pregnancy rate material.

［0005] ［MEANS FOR SOLVING PROBLEMS] The present inventors is a result of intensive studies to solve the above problems, and then injected into the uterus of the animal chitosan Surprisingly, induced estrus, improved condition of the endometrium , found that improving the pregnancy rate and thereby improves ovarian function, and completed the present invention.

［0006] An embodiment of the present invention is described in detail as follows. The invention is injected into the uterus of cattle chitosan induced estrus, improved condition of the endometrium is a way of improving pregnancy rates and improve livestock by which ovarian function.

［0007] The invention applies to animals as cattle, horses, pigs, goats and sheep and the like are desirable, especially cattle.

［0008] The shape of the drug form chitosan intrauterine infusion of the invention tablets, pills, granules, fine granules, powders, semi-solids, liquids, capsules and the like is, and in terms of particular solutions used excellent. To inject a drug into the uterus of domestic animals of the invention is chitosan intrauterine infusion, intrauterine infusion agent is solid, semisolid or if the drug is administered directly into the uterus using the hand, once the agent is injected into the uterus and was dissolved in saline, and the methods used and the injector to inject the chemical in utero. In the case of the liquid, and the method using a syringe to inject the chemical directly in the uterus. The amount of chitosan administered into the uterus of 10 ~ 100mg / head / the times.

[0009] EXAMPLES The invention is further explained in detail to give the following examples, but to clarify the effect of the invention, which are illustrative only, not intended to be limited by the scope of the invention are not.

[0010] Example 1 (preparation of intra-uterine fluid). Chitosan bulk powder 0.4 ~ 1.2g 600 ~ 700ml of water swelling, and lactic acid 0.2 ~ 0.6ml was added, then stirred and dissolved, add sodium hydroxide adjusted to pH5.0 ~ 6.5, total volume of water and 1L was. Chitosan solution through the filter obtained after removal of suspended solids to obtain a sterilization agent for chitosan intrauterine infusion. Were subjected to the following examples.

[0011] For Eight adult Holstein cow in Example 2, 8 cycles of intrauterine injection drug chitosan a day - 12 50mL (chitosan-containing 30mg) was administered. All cows 72 hours after administration 96 (3 to 4 days) showed estrus, ovulated within 30 hours of any Estrus.

[0012] On the head of a Japanese Black Cattle Example 3 endometritis, intrauterine injection drug chitosan 50mL (chitosan-containing 30mg) was administered, showed early recovery of the state of the endometrium. Subsequently, superovulation treatment, the results were collected eggs, five eggs were recovered.

[0013] For a head of Holstein ovaries Example 4 was administered as a 60mg chitosan. Repair is 14 days after administration of follicle Seen, he recovered.

[0014] The artificial insemination or embryo transplantation was 53 times more examples, intended as chitosan beef estrus had not conceived of low fertility 16mg was injected once in the womb. Estrus after injection of artificial insemination. Artificial insemination immediately after the 40 day search for 60 confirmed the pregnancy. Head 19 of 21 animals (90.5%) have conceived. Two heads had not conceived of endometrial abnormalities (thickening) was observed cases and the like.

[0015] Example 6 prostaglandin F 1 in the heat of the artificial insemination was conducted after administration of α_2 ~ 2 times, had not conceived for three heads, in Quito As a single injection of 16mg in San womb. Conceived by artificial insemination after injection.

[0016] Postpartum cattle afterbirth retention Example 7, after removal of the placenta as chitosan 16mg was injected once in the womb. Estrus and conception by artificial insemination in the first two periods after the injection.

[0017] Effect of the Invention According to the invention, by injecting into the uterus of livestock agent intrauterine infusion as an active ingredient chitosan induced estrus, improved condition of the endometrium can be and improve ovarian function, can improve the pregnancy rate for that animal.

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