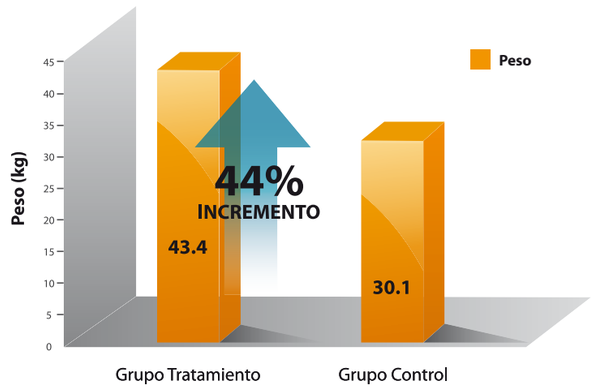
INCREMENTO DE PESO COMPROBADO

Ensayo clínico: Efecto de un modificador orgánico (Modivitasan) en la ganancia de peso en vacunos cebú en el trópico peruano del Instituto Veterinario de Investigaciones Tropicales y de Altura (IVITA) de la Facultad de Medicina Veterinaria de la Universidad Nacional Mayor de San Marcos (UNMSM)*.



*Alfredo Delgado C., Antonio Trigueros V., José Tang P., Roxana Angelats M., César Gavidia Ch. .

PRODUCTO SEGURO **SIN PERIODO DE RETIRO**

Modivitasan no presenta periodo de retiro en leche ni en carne, siendo completamente seguro para los animales y las personas, ya que sus componentes son nutrientes necesarios para el animal sin efectos colaterales.

Encuéntranos en

INDICACIONES

Indicaciones de Uso

- Aumentar la ganancia de peso en los animales.
- Estimular, vigorizar, reconstituir, restaurar y optimizar las funciones orgánicas del animal.
- Mejorar la conversión alimenticia de los animales.
- Estimular el metabolismo en animales debilitados por afecciones crónicas, desnutridos o decaídos por condiciones climáticas extremas (friaje, sequías).

Dosificación y Administración

MODIVITASAN es una solución inyectable, cuya vía de administración recomendada es la vía intramuscular o subcutánea.

- Bovinos, ovinos, caprinos, equinos, porcinos y camélidos: 1 mL/50 kg cada 30 días por 2 o 3 meses (según recomendación médica). en bovinos lecheros se recomienda la vía subcutánea.
- Caninos y felinos: 0.10 mL/5 kg.
- Aves, cuyes y conejos: 0.05 mL/2 kg.
- Volúmenes mayores a 10 mL deben ser repartidos si se usase cualquiera de las vías de administración indicadas.

Especies de Destino

Está desarrollado para ser usado en bovinos*, equinos, porcinos, camélidos, ovinos, caprinos, caninos, felinos, aves, cuyes y conejos.

*En bovinos de alta producción láctea pueden presentarse cuadros de reacción de hipersensibilidad a alguno de los componentes. Producto a usarse bajo supervisión del médico veterinario. Evitar su aplicación en animales preñados.

V4.150414

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Modivitasan

Modificador Orgánico

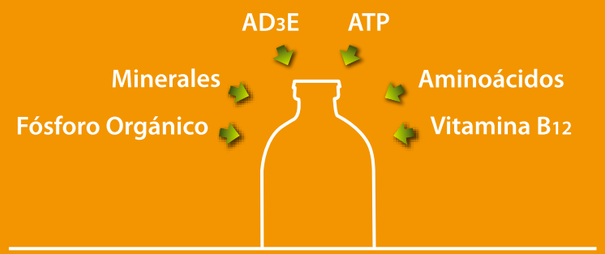
No le falta **NADA**

¿QUÉ ES UN **MODIFICADOR ORGÁNICO?**

Los modificadores orgánicos son productos aplicados de forma inyectable al animal y que reunen en su composición aminoácidos, minerales y vitaminas.

Por su acción y composición muy completa, constituyen una nueva generación de productos que optimizan las funciones metabólicas de los animales dando como resultado un aumento en la producción.

UN **MODIFICADOR ORGÁNICO** CONTIENE **TODO** LO NECESARIO PARA OPTIMIZAR EL METABOLISMO DE LOS ANIMALES



¿POR QUÉ USAR **MODIVITASAN?**

Modificador Orgánico

- Optimiza las funciones corporales estimulando el metabolismo.
- Incrementa la producción y la ganancia de peso.
- Ayuda al animal en estados de estrés y posestrés.
- Reduce el tiempo de recuperación después de enfermedades metabólicas, infecciosas y parasitarias.
- Ayuda a la recuperación de animales debilitados por climas extremos (frío, sequía, calor extremo).


Mayores Ganancias


Mayor Producción de Leche


Mayor Producción de Carne


Ganaderos Satisfechos

FÓRMULA

DL-Metionina	**210.00 mg**
L-Arginina	**200.00 mg**
L-Histidina	**210.00 mg**
L-Leucina	**210.00 mg**
L-Lisina	**1000.00 mg**
L-Treonina	**100.00 mg**
L-Triptófano	**50.00 mg**
L-Valina	**200.00 mg**
Glutamato de Sodio	**420.00 mg**
Adenosin Trifosfato Disódico	**300.00 mg**
Vitamina A Palmitato	**3000000 UI**
Cianocobalamina (Vitamina B_{12})	**5.00 mg**
Colecalciferol (Vitamina D_3)	**1000000 UI**
Alfa-Tocoferol Acetato (Vitamina E)	**1000.00 mg**
Citrato de Hierro Amoniacal	**400.00 mg**
Cloruro de Sodio	**42.00 mg**
Glicerofosfato de Sodio	**1000.00 mg**
Gluconato de Calcio	**3.80 mg**
Gluconato de Cobalto	**20.10 mg**
Gluconato de Magnesio	**410.00 mg**
Gluconato de Manganeso	**318.70 mg**
Gluconato de Zinc	**167.20 mg**
Selenito de Sodio	**50.00 mg**
Yoduro de Potasio	**200.00 mg**
Excipientes c.s.p.	**100 mL**

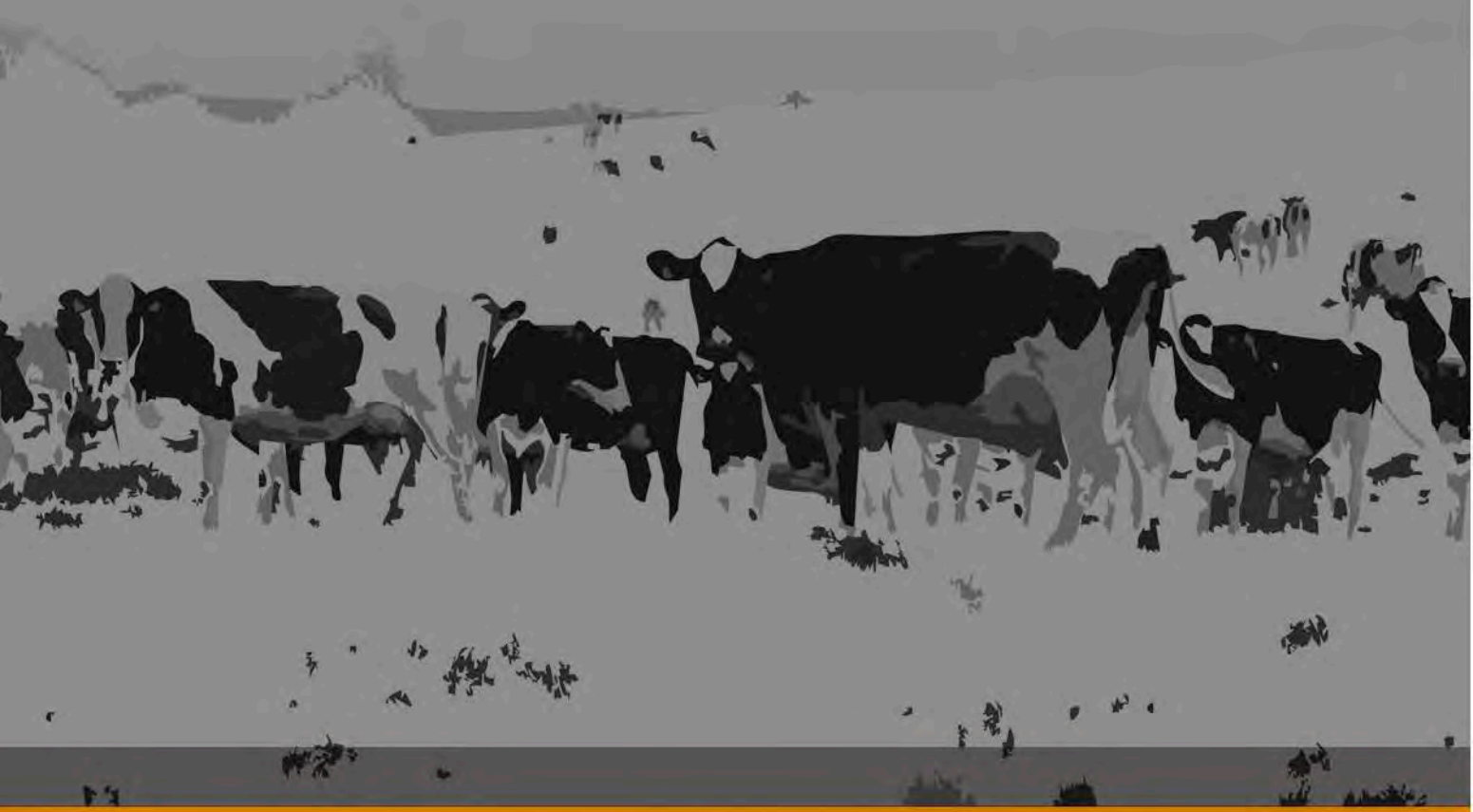
Modivitasan

Modificador Orgánico

Por su formulación ÚNICA EN EL MUNDO, es la nueva alternativa para mejorar la producción de sus animales.

Modivitasan

Organic Modifier



Technical Information

Technical Video

Modivitasan does NOT miss a thing

TODAY´S LIVESTOCK PRODUCTION

Nowadays demand in livestock production is increasingly high; markets request greater output in less time, using safer and better quality products for the animals and the consumers.

Several factors have repercussion in livestock low productivity, whether in highlands or tropical regions. One of the most important factors to consider is the lack of nutrients in fodder, which causes several issues that the breeder must bear besides animal husbandry problems: decrease in weight gain rate, lower milk and wool production, and poor reproductive performance and even death of the animal. On the other hand, treatments demand a big investment both financially and time-consuming, harming breeder´s profitability and economy. Consequently, they become less competitive.

That being so, supplementation to balance mineral deficiencies is an essential method to optimize metabolism and all the organic functions in animals. Usually, diverse products that contain mixtures of vitamins and minerals are administered, which means an excessive demand on time and money for the breeder.

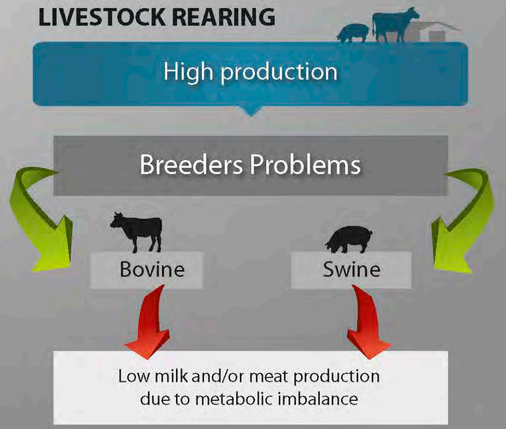
SITUATION ANALYSIS

Production rates in animal rearing are decreased due to poor nutrient pastures intake, giving as a result low milk, meat and wool production. This situation along with the high prevalence of parasitic diseases could cause the death of animals. On the other side, intensive livestock rearing requires a high metabolic exigency and animals are always exposed to metabolic diseases with a consequent delay of growth and production.

EXTENSIVE LIVESTOCK REARING

- Poor weight gain
- Low production of milk, wool and/or meat
- Low reproductive rates
- Lower physical performance
- Animal death

INTENSIVE LIVESTOCK REARING

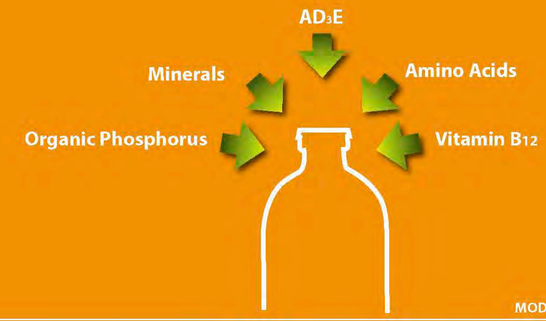


THE ALTERNATIVE

ORGANIC MODIFIER

The formula of organic modifiers contains a set of amino acids (first protein building units), vitamins and minerals. Jointly, they act by modifying animal metabolism, maximizing nutrient conversion. As a consequence the animal improves its general condition and stimulates its development, weight gain and meat, milk and/or wool production.

AN ORGANIC MODIFIER CONTAINS ALL THE ESSENTIAL INGREDIENTS TO OPTIMIZE ANIMAL METABOLISM



WHAT IS **MODIVITASAN?**

Organic Modifier

The vitamins, amino acids and minerals The combination of makes its formula globally unique.

It is an ORGANIC MODIFIER that contains a powerful all inclusive formula; it is developed on the basis of 10 minerals, 9 amino acids, 4 vitamins and 1 powerful source of energy: ATP. This combination gives livestock all necessary ingredients to maximize the weight gain rate, stimulating the organic functions with an invigorating and restorative effect. The ATP use is essential as an energy source during musde and tissue generation. **MODIVITASAN** benefits the animal body by stimulating its metabolic and hormonal actions, contributing to the release of growth factors and optimizing not only the weight gain, but all body functions which leads to an increased milk, meat and wool production and also improves animal performance during competition. The use of **MODIVITASAN** represents the best alternative to balance livestock nutrient deficiencies by stimulating voluntary food intake, thus nutritional conversion improvement.

MODIVITASAN acts in a positive way for all animal species at any growth stage, contributing to its development. This powerful organic modifier is used as an organic restorative and invigorating supplement. It is recommended for use during and after stress situations, for the recovery of infectious and parasitic diseases and also as an aid for the recovery of weak animals affected by extreme weather conditions like cold spell and drought, or to prevent livestock mortality during transportation.

MODIVITASAN also acts as a "NATURAL FATTENING" agent since it encourages metabolism efficiency through food intake, producing a significant increase in weight. This was evidenced in the study carried out in the Peruvian rainforest with extensive grazing steers under humid tropic conditions. In that study, bulls were administered by intramuscular route the recommended dosage of 1 ml for each 50 Kg of body weight during 90 days, obtaining a 40% increase in weight gain after applying the recommended dose 3 times every 30 days during an extensive fattening period.

MODIVITASAN, Organic Modifier

This organic modifier helps the animal organism by stimulating metabolic and hormonal functions, improving all body functions and increasing food conversion.

WHAT DOES MODIVITASAN CONTAIN?

Organic Modifier

Modivitasan is a globally unique formula, developed according to the current breeders needs looking for an increase in livestock production. The use of Modivitasan use has many advantages over other traditional supplementation methods, such as Vitamin AD3E, B Vitamins and others separately administered. Modivitasan formula contains:

AMINO ACIDS

Valine, Leucine, Arginine, Histidine, Monosodium Glutamate (Glutamid Acid precursor): These amino acids synthetize the proteins that improve the structute and functionality of all organs and also stimulate muscle mass formation.

Lysine, Methionine, Threonine, and Tryptophan: Amino acids that are poorly synthesized by the animal organism therefore these should be supplemented. They reinforce the action of the promotional amino acids as protein formers.

VITAMINS

Vitamins A, B12 (Cyanocobalamin), D and E

These vitamins are involved in different metabolic functions, induding fat and carbohydrates metabolism and protein synthesis, blood generation, corporal growth, tissue regeneration, formation and maintenance, and also in the reproductive system. Vitamin D3 is essential for calcium and phosphorus metabolism and normal homeostasis. Vitamin B12 **(Cyanocobalamin)** is essential in blood formation, corporal growth and tissue regeneration.

ALL ORGANIC MINERALS

Iron, Sodium, Phosphorus, Calcium, Cobalt, Magnesium, Manganese, Selenium and Potassium

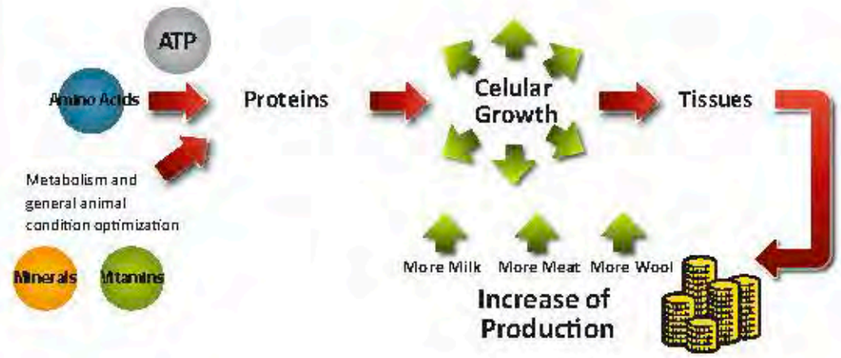
Minerals are the third group of restricted nutrients in animal production. Their importance lies in the fact that they are necessary to transform food into body components or into products such as milk, meat, litters, skin or wool, among others. An imbalance of these nutrients can cause serious reproductive issues to grazing animals and a series of metabolic diseases due to energy or minerals disproportion. (Garmendia, 2006).

ENERGY SOURCE

Adenosine triphosphate (ATP)

Energy is the first restricted nutrient in tropical cattle nutrition (NRC, 2001). The lack of energy is the most common consequence of nutritional deficiency which limits animal performance. This is developed because of poor food availability and poor quality of the food intake. An inadequate supply of energy in young animals causes a delay in growth and puberty advent (Chicc et al., 1977).

ABSORPTION PROCESS OF THE NUTRIENTS



WHY USE MODIVITASAN?

Organic Modifier

SAFE PRODUCT **WITHOUT WITHDRAWAL PERIOD**

Results obtained from animals under tropic conditions showed that weight increase using **Modivitasan** was higher than those reported by similar tests using anabolic drugs (Rodriguez, 1989, Duran et al., 2005). **Modivitasan** does not have withdrawal period for milk or meat, it is completely harmless for animals and people. Its components are indispensable nutrients for the animals and do not have collateral effects.

WEIGHT INCREASE (MEAT PRODUCTION) **DEMONSTRATED**

A study carried out in grazing animals at the tropic by the Veterinary Institute of Tropical and Highlands Research from The Veterinary Medicine School of the "Universidad Nacional Mayor de San Marcos (UNMSM)" University proved the efficacy of Modivitasan through an increase in meat production with a weight increase higher than 44% compared to animals without treatment.

THE COMBINATION OF NATURAL NUTRIENTS MAKES MODIVITASAN COMPLETELY SAFE FOR PEOPLE AND ANIMALS, INCREASING LIVESTOCK PRODUCTION

WHEN TO USE MODIVITASAN?

Organic Modifier

Moditivasan represents an important alternative to supplement nutricional deficiencies in grazing livestock by stimulating voluntary consumption of pastures with a consequent increase of weight with lower costs of treatments. It also optimizes production in animals with over exigency, stunting, weakness especially for intensive livestock rearing.

Extensive livestock rearing

- As a "natural fattening" agent, increasing weight gain
- To increase milk production
- To increase wool production

Intensive livestock rearing

- To recover stunted animals
- To increase animal production
- As an aid for metabolic diseases caused by production over exigency

For both kind of rearing

- To recover weak animals due to extreme weather conditions, like extreme cold and droughts
- To recover from infectious and parasitic diseases
- To improve general condition
- To restore from stress and post stress conditions

MODIVITASAN, Organic Modifier

FORMULA

DL-Methionine	**210.00 mg**
L-Arginine	**200.00 mg**
L-Histidine	**210.00 mg**
L-Leucine	**210.00 mg**
L-Lysine	**1000.00 mg**
L-Threonine	**100.00 mg**
L-Tryptophan	**50.00 mg**
L-Valine	**200.00 mg**
Sodium Glutamate	**420.00 mg**
Adenosine Triphosphate Disodium	**300.00 mg**
Vitamin A Palmitate	**3000000 IU**
Cyanocobalamin (B_{12} Vitamin)	**5.00 mg**
Cholecalciferol (D_3 Vitamin)	**1000000 IU**
Alpha-Tocopherol Acetate (Vitamina E)	**1000.00 mg**
Ammonium Iron Citrate	**400.00 mg**
Sodium Chloride	**42.00 mg**
Sodium Glycerophosphate	**1000.00 mg**
Calcium Gluconate	**3.80 mg**
Cobalt Gluconate	**20.10 mg**
Magnesium Gluconate	**410.00 mg**
Manganese Gluconate	**318.70 mg**
Zinc Gluconate	**167.20 mg**
Sodium Selenite	**50.00 mg**
Potassium Iodide	**200.00 mg**
Excipients q.s.a.d.	**100 mL**

Due to its GLOBALLY UNIQUE formula **Modivitasan** is the new alternative to supplement nutritional deficiencies in livestock production.

Modivitasan

Organic Modifier

CLINICAL TRIAL

THE EFFECT OF AN ORGANIC MODIFIER (MODIVITASAN) OVER WEIGHT GAIN OF ZEBU CATTLE FROM THE PERUVIAN TROPIC*

Experimental layout

The experimental variable considered for this study was weight gain average. On the basis of an expected average difference of weight gain of 11 kg, with a standard deviation of 9, 5 kg under 5% confidence level and with 80% of statistical power, a minimum sample size of 14 animals was calculated for each experimental group. Each animal was considered an experimental unit. Thus, 40 Nelore bulls with an average age of 25 ± 7.7 month bulls with a 211.08 ± 41.7 kg as initial average weight, were randomly assigned to two experimental groups of 20 animals each. However, there were 4 withdrawals in control group at the begining of the study. The weight of for a animal was monitored every 15 days during a 90-day period. This trial was run from September to January, for a 105-day period. The treatment consisted of 3 injections of 1 mL of Modivitasan for every 50 kg of body weight repeated at 30-day intervals, being the first administration on day 1, the second one on day 30 and the last one on day 60.

Results

The results presented in Table 1 show a significant statistical difference on the final weight gain value for the treatment group compared to the control group. This way, existence of higher weight gain has been evidenced, 13.3 kg weight average which favors the animals that were administered the organic modifier, Modivitasan, as it is observed in Picture 1. This increase of weight gain could be explained by the supply of minerals, energy, vitamins and amino acids contained within this organic modifier.

Table 1. **Weight gain comparison**

GROUP	Bulls		
	Initial Weight (kg) Average, SD	Final Weight(kg) Average, SD	Weight gain (kg) Average, SD
Treatment	205. 1, 44.9[a]	248. 5, 50.4	43.4; 9.2[a]
Control	218. 1, 37.6[a]	243. 9, 37.6	30.1; 5.4[b]

[a]The averages were statistically different (p<0.01)
[b]The averages were statistically similar (p=0.21)

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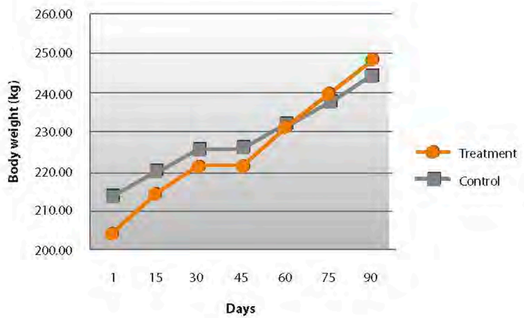
[5] Preventive Veterinary Medicine Laboratory, Veterinary Medicine School, UNMSM, Lima

Picture 1. **Weight gain comparison**

By the end of this trial the average weight gain shows an increase of 44% for the treatment group compared to the control group.
Despite of poor quality pastures, daily weight gain was 0,482 kg in the Treatment Group compared to the Control Group which reached an average daily weight gain of 0,334 kg. An increase of the voluntary food intake can be attributed to energy, vitamin and protein contribution of Modivitasan, because voluntary intake and digestibility respond to protein and energetic supply when pastures contain less than 8 to 10% of crude protein, which is the case of the pastures used for this trial (Allison, 1985; Del Curto et al., 1990).

Picture 2. **Weight gaining Treatment Group and Control Group**



On the other hand, it must be emphasized that the obtained weight gain has a positive effect over breeder's economy according to a simple economic analysis. Considering a treatment of Modivitasan for 1.10 USD per animal for each injection, the sale price of 1.5 USD per kg of body weight; the weight average for the treatment group and control group was respectively, so we have a 16.10 USD net profit with the use of Modivitasan (Picture 2).

Picture 2. **Economic gain per animal by using Modivitasan**

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MODIVITASAN BENEFITS

Organic Modifier

Modivitasan

Organic Modifier

Milk
Wool
Meat

Improves general animal condition

Aid for the treatment of metabolic, infectious and parasitic diseases

Increases production

Optimizes all body functions

Reduces recovery time

Improves stress and post stress conditions

Helps recovery from extreme weather conditions

Low investment

Transport and other causes

Extreme Cold
Droughts
Extreme Heat

Reduced dosage

Larger Profits

Satisfied Breeders

Indications of use

- To stimulate, revitalize, reconstitute, restore and optimize all animal organic functions.
- To activate metabolic and hormonal functions, releasing growth factors, thus ensuring weight gain and all body functions.
- To improve organic metabolic functions by optimizing feed conversion.
- To reconstitute during and after stress situations.
- Auxiliary treatment for infectious and parasitic diseases.
- To stimulate metabolism of weak animals under chronic affections, extreme weather conditions (frost, droughts) or malnourishment.
- To prevent birth disorders, retained placenta and embryonic deaths.

Target species

Its formula is developed to be used in cattle*, equines, swine, camelids, sheep, goats, dogs, cats, birds (fighting cocks, growing chickens, broiler and breeders), guinea pigs and rabbits.

Dosage and administration

MODIVITASAN is an injectable solution recommended to be administered by intramuscular or subcutaneous route.

- Bovine, Sheep, Goats, Equine, Swine and Camelids: 1 mL / 50 Kg
- Dogs and Cats 0.10 mL / 5 Kg.
- Birds, Guinea pigs and Rabbits 0.05 mL / 2 Kg

* In high production dairy cattle some hypersensitivity may be seen. It is recommended to administer Modivitasan very carefully in this cattle and under veterinarian supervision. Avoid its administration during pregnancy.

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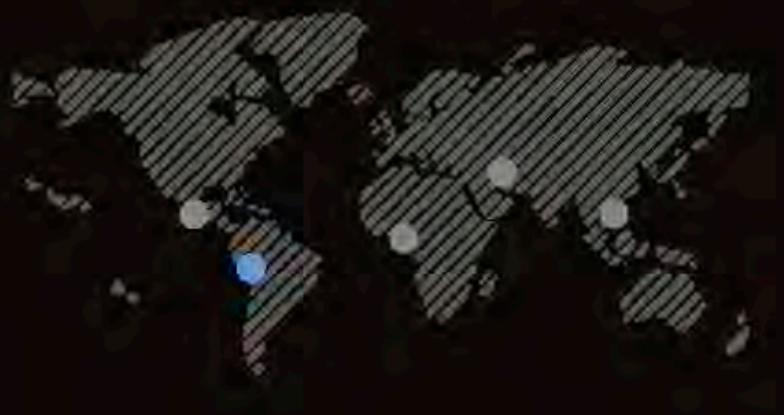

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