

G-NUTRA 2S DAT

Natural
Antibiotic and Nutrients
Betaglukan, Mannos, Garlic extract



AMECO-BIOS, INC.
P.O. BOX 660926 ARCADIA, CA 91006 U.S.A.
Email: amecobios@gmail.com

Characteristics

G-Nutra 2S DAT works like a natural antibiotic and nutrients containing beta-glucan, MOS and a biotech applied garlic extract powder in order to preserve the potency of garlicin effect.

Light brown powder with good fluidity, dense and pure garlic odor.

Active Ingredients:

- Brewer's dry yeast,
- *Saccharomyces cerevisiae* fermentation soluble ,
- Inactive yeast fermentation ,
- Garlic extract



MAJOR BENEFITS/FUNCTION:

- (1) Wide range and strong inducing feeding functions, broaden-spectrum and intense sterilization functions
- (2) Preventing and controlling chicken coccidiosis;
- (3) Promoting growth of animals and improving feed efficiency
- (4) Making functional eggs and chicken meat more delicious;
- (5) Controlling mold causing the mycotoxins
- (6) The strong garlic smell can conceal the bad smell in the feeds
- (7) Good health care function: reducing the cholesterol in the blood, alleviating the bad affect of fat food,
- (8) Help animals to absorb Vitamin B complex more.



Use Directions

250-1000g per ton of feeds for Poultry & Livestock animals. Start with 250g for 2-3 days so that animals can get used to the flavor of natural garlic. And then, increase upto 1000g

PACKING: 1 Kg in an al. foil pack



Diallyl propyl trisulfide has higher anti-bacteria effect and broaden anti-bacteria spectrum in these sulfide compounds.

Even diluted from 1: 85000 to 1:125000, it can still inhibit colon bacillus, staphylococcus, dysentery coccus, pneumonia coccus, streptococcus, typhoid bacillus, paratyphoid bacillus, cholera vibrio, diphtheria bacillus, and Gram-positive & negative bacteria. Moreover, it does not show medicine-resistance for bacteria. It has been proven that bacteria which have medicine-resistance to Penicillin, Streptomycin, Chloromycetin, and Mycin, are sensitive to G-Nutra 2S DAT.

The main component of this product is diallyl propyl trisulfide, other components include monosulfide, disulfide, tetrasulfide, which have been permitted by United State FDA as food additives. This product is made by bio-technology and purified from over one hundred of volatile sulfur compounds to diallyl propyl trisulfide which has best bacteria-resistance



Main function:

G-Nutra 2S DAT shows strong bait induction and broad disinfection. It prevents and cures chicken coccidiosis very well, and can substitute other anti-coccidiosis medicine in non-coccidiosis disease areas.

G-Nutra 2S DAT can improve animal growth, increase feedstuff efficiency, and especially increase flavor component of C3H5-S(O)- inside chicken and egg. It can resist mold and totally or partly substitute other anti-mold Medicine in non-mold rain season.

It smells strong and pure odor of garlic, and can cover bad odor which come from fish meal, cotton dreg, vegetable dreg, and blood powder in feedstuff.

G-Nutra 2S DAT also has good balance property and can Decrease blood cholesterol, lighten bad effect of oil food, improve Vitamin B groups absorption, inhibit blood condense, prevent heart disease, protect live function, and prevent cancer.



Feeding tests in pig feedstuff,

one add G-Nutra 2S DAT product 500g-1000g (500-1000ppm), the other add 50ppm carbadox.

The result demonstrate that the feedstuff efficiency by adding G-Nutra 2S DAT is almost same as by adding carbadox, but in death rate and diarrhea rate, adding garlic is lower than adding carbadox

The growth effect by feeding G-Nutra 2S DAT to ablactate pig(11-24Kg)				
	G-Nutra 2S DAT adding ratio			Carbadox 50ppm
	500g	1000g	0g	
Daily wt. increase(g)	382	414	376	465
Feed amounts(Kg/d)	710	736	691	825
Feedstuff efficiency	1.88	1.77	1.83	1.77
Death rate(%)	1.6	-	3.1	2.4
Diarrhea rate(%)	6.8	6.2	9.4	6.5



Poultry Trial

	First batch for control group	Second batch for Treatment group w/G-Nutra 2S DAT)
Date of slaughtering	Feb. 21, 2005	June 28, 2005
Feeding days	87	91
Number of birds when started	23,500	22,350
Number of chickens slaughtered	21,584	20,595
Number of mortality	1916	1755
The percentage Of survival (%)	91.85	92.15
Final weight(average in kg)	65,186	63,510
Average weight kg)/bird	2.988	3.084
Total use of feed in kg	201,380	172,650
Use of feed per chicken in kg	9.330	8.383
Feed conversion	3.089	2.718



TRIAL: Two commercial broiler operations in Quebec, Canada:

- 17000 Broiler were fed **G-Nutra 2S DAT** at the rate of **1.0 Kg per MT of feed**
- Birds started April 29, 1996 and were processed June 5, 1996
- Control Lot-34000 Broiler Pullets
- Birds Started May 13, 1996 and were processed June 20, 1996.

	(17000 Broilers)	Control(34000 Broilers)
DAY	36	37
MORTALITY	0	0.54
Weight/Bird in gram	1792	1742
Feed Conversion	1.8	1.9
Condemnation %	0.84	1.49
Daily Gain	49 gram	47 gram



TRIAL:

14000 MALE BROILERS WERE FED **G-NUTRA 2S DAT** AT THE RATE OF 1.0 KG PER MT OF FEED

BIRDS STARTED JUNE 25, 1996 AND WERE PROCESSED AUGUST 5, 2006

CONTROL LOT - 14000 MALE BROILER

BIRDS STARTED JUNE 25, 1996 AND WERE PROCESSED AUGUST 5, 2006

SAME HOUSING, SAME FEEDS

	G-Nutra 2S DAT (14000 Broilers)	Control (14000 Broilers)
DAY	40	40
Mortality	0.85	1.07
Weight/Bird in gram	2315	2197
Feed Conversion	1.86	1.84
Condemnation	1.41	0.90
Daily Gain	57 gram	54 gram



GARLIC IS A TRULY ECO-FRIENDLY FEED ADDITIVE

Garlic 'may cut cow flatulence'

Scientists in Wales tackling the impact flatulent cows and sheep have on global warming may have an answer - putting garlic in their food.



Cows count for 3% of greenhouse gases in Britain

Experts claim cows are responsible for about 3% of Britain's greenhouse gases.

But initial results from the start of the three-year study show that feed containing garlic could cut the amount of gas produced by up to 50%.

The Aberystwyth research team is testing if this taints milk or meat - and gives the animals bad breath.

The study is being led by scientists at the University of Wales, Aberystwyth, alongside colleagues at Bangor and Reading universities.

In Aberystwyth, researchers are measuring the amount of methane and nitrogen produced by sheep by housing them in a plastic portable tent.

Project leader Professor Jamie Newbold said new types of feed from plant extracts, and grass with a higher sugar content, were being developed to help solve the problem.



Garlic is a great Environmental aid

Garlic directly attacks the organisms in the gut that produce methane <Prof. Jamie Newbold>

"Initial results show that extracts of garlic compound could reduce the amount of methane produced by animals(dairy cows) by 50%," he said.

He added that tests were also being carried out to see if the garlic gave the animals bad breath and more specifically if it could taint milk or meat.

But he joked that this might be "good for the French market".

Experts consider cows the biggest single source of methane - a gas 23 times more potent than carbon dioxide when it comes to global warming.

The average dairy cow is capable of producing up to 500 litres of the gas every day, mostly through belching.

Reduce that, claim the experts, and farming could not only be made greener and more efficient, but it could also help Britain achieve its commitments under the Kyoto agreement.

A spokeswoman for the Department for Food, the Environment and Rural Affairs (Defra) said recent research suggested that "substantial methane reductions" could be achieved by changes to animals' feed.

Prof Newbold explained that cattle and sheep were responsible for about 30% of methane emissions in the UK.

In Wales, they produced nearly double that - which amounts to 5% of Wales's greenhouse gases.

He said the work commissioned by Defra, worth some £750,000, had unified a number of schemes looking into flatulent animals. The project also involves Aberystwyth's Institute of Grassland and Environmental Research and environmental specialists Adas.



Pull the udder one – cows can produce 500 liters of gas a day



Test report on garlic bacteria resistance

•Materials

(1)Garlicin, 98%, inspected sample

(2)Petroleum ether, Extractant of garlicin

•Inspected organization : Chemical Industry Institute

•Objective : Inspect mould & bacteria resistance of garlicin

•Inspection methods : According to bacteria resistance method of oxford cup.

•Sample pretreatment : Dissolved and diluted garlicin with petroleum ether to six diluted solution of $10^{-1}, 10^{-2}, 10^{-3}, \dots, 10^{-6}$ of original concentration.

•Used bacteria

Mold: Aspergillus parasiticus, Penicilliosis.

Bacteria: Colon bacillus, Salmonella, Pseudomonas Aeruginosa, Pasteurella,

•Culture medium

Modified Sabourard Agar culture medium for mould. 8% strong rabbit blood for bacteria. These two mediums are supplied by Veterinarian microbiology study and research room, animal science department, Guang-Xi University.

•Test methods

Mould resist test: Inoculate each of Aspergillus parasiticus, Penicilliosis, into modified Sabourard Agar culture medium and cultivated in 28°C for 30 hrs, which used as colony. Then take from each mould colony into modified Sabourard Agar culture medium for mould resist test. Put 3 Oxford cups in each plate, add 0.2ml diluted samples into each cup and cultivate in 28°C . After 48 hrs and 96 hrs, observe the result and record. Each sample repeat three times.



Bacteria resist test: Inoculate each of colon bacillus, Salmonella Pseudomonas Aeruginosa, Pasteurella into culture medium of 8% strong rabbit blood and cultivate in 37°C for 18 hrs, then take out and wipe into plate of 8% strong rabbit blood for bacteria test. Put 3 Oxford cups in each plate, add 0.2ml diluted samples. After 48 hrs and 96 hrs, observe the result and record. Each sample repeat three times.

Result:

The mould resist of 30% and 98% garlicin are indicated by size(mm) of mould resist circle. The result was shown in table 1.

table 1. The mould resist of Garlicin

Mould	Aspergillus parasiticus						Penicilliosis					
Dilution	10 ⁻¹		10 ⁻²		10 ⁻³		10 ⁻¹		10 ⁻²		10 ⁻³	
Hour Sample	48	96	48	96	48	96	48	96	48	96	48	96
30% garlicin	-	-	-	-	-	-	-	-	-	-	-	-
98% garlicin	-	-	-	-	-	-	-	-	-	-	-	-

Notes: > 20 mm high sensitivity, 15~ <20mm medium sensitivity, 10~ < 15mm low sensitivity, < 10 mm not sensitive.



•The bacteria resist of 30% and 98% garlicin are indicated by size(mm) of bacteria resist circle The result was shown in table 2.

Table 2 The bacteria resist of Garlicin to four bacteria

Bacteria	Colon bacillus												Salmonella												Pseudomonas Aeruginosa				Pasteurella			
	10 ⁻¹		10 ⁻²		10 ⁻³		10 ⁻⁴		10 ⁻⁵		10 ⁻⁶		10 ⁻¹		10 ⁻²		10 ⁻³		10 ⁻⁴		10 ⁻⁵		10 ⁻⁶		10 ⁻¹		10 ⁻²		10 ⁻¹		10 ⁻²	
Hour Sample	48	96	48	96	48	96	48	96	48	96	48	96	48	96	48	96	48	96	48	96	48	96	48	96	48	96	48	96	48	96	48	96
30% garlicin	25	25	22	22	19	19	15	15	12	12	-	-	24	24	20	20	17	17	14	14	12	12	-	--	10	10	-	-	7	7	-	--
98% garlicin	25	25	22	22	19	19	15	15	12	12	-	-	25	25	21	21	17	17	14	14	12	12	-	--	10	10	-	-	7	7	-	--

Conclusion

It was shown that from table 1, garlicin do not show mould resist to *Aspergillus parasiticus*, *Penicilliosis*.

It was shown that from table 2, garlicin show high sensitivity to colon bacillus and Salmonella, in 3×10^{-6} (3ppm) show low sensitivity, in 3×10^{-5} (30ppm) show medium sensitivity, in 3×10^{-4} (300ppm) show high sensitivity. Garlicin do not show bacteria resist to *Pseudomonas Aeruginosa*, *Pasteurella*.



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EFFECT OF G-Nutra 2S DAT ON PIGS AT WEANING

G-Nutra 2S DAT HAS BEEN EVALUATED IN A SERIES OF EXPERIMENTAL RESEARCH TRIALS DESIGNED TO MEASURE THE BENEFITS OF THE PRODUCT IN ALLEVIATING THE TYPICAL “LAG PERIOD” IN PERFORMANCE OFTEN OBSERVED IN YOUNG PIGS FOLLOWING WEANING OR WHEN STARTING NEWLY ARRIVED FEEDER PIGS.

TABLE 1 SHOWS THE PIGS’ PERFORMANCE RESPONSE TO **G-Nutra 2S DAT** WHEN ADDED TO THE RATION DURING THE FOUR-WEEK POST-WEANING PERIOD.

EXPERIMENT	Pigs/Tr.	Initial Wt, lb	ADG, lbs		Feed/Gain, lbs	
			Control	G-Nutra 2S DAT	Control	G-Nutra 2S DAT
A	18	24	1.17	1.25	2.30	2.18
B	18	26	1.03	1.14	2.38	2.26
C	50	23	0.75	0.77	2.87	2.72
D	68	18	0.33	0.44	2.85	2.37
E	30	18	0.81	0.86	2.20	2.06
F	45	14	0.70	0.75	2.04	2.05
G	16	17	0.13	0.24	3.12	2.40
H	48	17	1.08	1.12	2.38	2.36
I	50	15	0.35	0.46	2.23	2.14
J	16	21	0.92	1.01	2.62	1.94
K	16	11	0.48	0.55	1.80	1.76
AVERAGE			0.71	0.78	2.40	2.20
IMPROVEMENT(%)			+9.9		+9.8	

The summary of 11 research trials involving 750 post-weaned pigs reported in Table1, shows that pigs receiving **G-Nutra 2S DAT** averaged 9.9% greater daily gains (P<.01) and required 9.8% less feed per unit of gain (P<.01).



EFFECT OF G-NUTRA 2S DAT IN GROWING-FINISHING RATIONS

ONCE YOUNG PIGS PASS THE POST-WEANING LAG PERIOD AND HAVE ADAPTED TO THE NUTRITIONAL AND REARING CONDITIONS, HEALTH PROBLEMS ARE USUALLY MUCH LESS SEVERE AND GROWTH PERFORMANCE APPROACHES A MORE OPTIMUM LEVEL OF PRODUCTION. CONSEQUENTLY, THE RESPONSES FROM VARIOUS RATIONS ADJUNCTS ARE USUALLY LESS DRAMATIC IN SWINE GROWING-FINISHING TRIALS THAN NORMALLY EXPERIENCED WITH YOUNGER PIGS.

WE HAVE CONDUCTED A SERIES OF RESEARCH TRIALS DESIGNED TO EVALUATE THE RESPONSE OF PIGS TO G-NUTRA 2S DAT FROM WEANING TO MARKET WEIGHT. TABLE 2 SUMMARIZES THE RESULTS OF FIVE GROWING-FINISHING SWINE TRIALS.

		ADG, lbs		Feed/Gain, lbs	
LOCATIONS	Pigs/Tr.	Control	G-Nutra 2S DAT	Control	G-Nutra 2S DAT
1	16	1.65	1.69	3.50	3.42
2	18	1.43	1.47	3.67	3.61
3	10	1.32	1.58	3.29	3.11
4	30	1.67	1.72	3.00	2.95
5	64	1.47	1.50	3.48	3.37
Average		1.51	1.59	3.41	3.29
Improvement(%)		+5.3		+3.5	

Summary:

The results given in Table 2 indicate that pigs fed **G-Nutra 2S DAT** from weaning to market weight had a 5.3% improvement in daily gains and required 3.5% less feed per unit of gain ($P < .05$) than pigs fed the control rations.



Effect of Garlic Oil and Four of its Compounds on Rumen Microbial Fermentation

M. Busquet¹, S. Calsamiglia¹, A. Ferret¹, M. D. Carro² and C. Kamel³

¹ Departament de Ciència Animal i dels Aliments, Universitat Autònoma de Barcelona, 08193 Bellaterra, Spain

² Departamento de Producción Animal I, Universidad de León, 24071 León, Spain

³ Pancosma, 01205 Bellegarde-sur-Valserine Cedex, France

ABSTRACT

Different concentrations (3, 30, 300, and 3000 mg/L of culture fluid) of garlic oil (GAR), diallyl sulfide (DAS), diallyl disulfide (DAD), allicin (ALL), and allyl mercaptan (ALM) were incubated for 24 h in diluted ruminal fluid with a 50:50 forage:concentrate diet (17.7% crude protein; 30.7% neutral detergent fiber) to evaluate their effects on rumen microbial fermentation. Garlic oil (30 and 300 mg/L), DAD (30 and 300 mg/L), and ALM (300 mg/L) resulted in lower molar proportion of acetate and higher proportions of propionate and butyrate. In contrast, at 300 mg/L, DAS only increased the proportion of butyrate, and ALL had no effects on volatile fatty acid proportions. In a dual-flow continuous culture of rumen fluid fed the same 50:50 forage:concentrate diet, addition of GAR (312 mg/L), DAD (31.2 and 312 mg/L), and ALM (31.2 and 312 mg/L) resulted in similar changes to those observed in batch culture, with the exception of the lack of effect of DAD on the proportion of propionate. In a third in vitro study, the potential of GAR (300 mg/L), DAD (300 mg/L), and ALM (300 mg/L) to decrease methane production was evaluated. Treatments GAR, DAD, and ALM resulted in a decrease in methane production of 73.6, 68.5, and 19.5%, respectively, compared with the control. These results confirm the ability of GAR, DAD, and ALM to decrease methane production, which may help to improve the efficiency of energy use in the rumen.

Key Words: rumen fermentation • garlic oil • diallyl disulfide • allyl mercaptan

Abbreviation key: ALL = allicin, ALM = allyl mercaptan, DAS = diallyl sulfide, DAD = diallyl disulfide, GAR = garlic oil, HMG-CoA = 3-hydroxy-3-methyl-glutaryl coenzyme A, LPep = large peptide, LOV = lovastatin, MON = monensin, SPep+AA = small peptide plus amino acid, TCA-N = TCA-soluble N, TA-N = tungstic acid-soluble N.



The effect of dietary garlic supplementation on body weight gain, feed intake, feed conversion efficiency, faecal score, faecal coliform count and feeding cost in crossbred dairy calves.

[Ghosh S](#), [Mehla RK](#), [Sirohi SK](#), [Roy B](#).

Department of Livestock Production and Management, College of Veterinary Science and Animal Husbandry (Jawaharlal Nehru Krishi Vishwavidyalaya), Rewa, 486001, Madhya Pradesh, India. sudivet@rediffmail.com

Abstract

Thirty-six crossbred calves (Holstein cross) of 5 days of age were used to study the effect of garlic extract feeding on their performance up to the age of 2 months (pre-ruminant stage). They were randomly allotted into treatment and control groups (18 numbers in each group). Performance was evaluated by measuring average body weight (BW) gain, feed intake (dry matter (DM), total digestible nutrient (TDN) and crude protein (CP)), feed conversion efficiency (FCE; DM, TDN and CP), faecal score, faecal coliform count and feeding cost. Diets were the same for the both groups. In addition, treatment group received garlic extract supplementation at 250 mg/kg BW per day per calf. Body weight measured weekly, feed intake measured twice daily, proximate analysis of feeds and fodders analysed weekly, faecal scores monitored daily and faecal coliform count done weekly. There was significant increase in average body weight gain, feed intake and FCE and significant decrease in severity of scours as measured by faecal score and faecal coliform count in the treatment group compared to the control group ($P < 0.01$). Feed cost per kilogramme BW gain was significantly lower in the treatment group compared to control group ($P < 0.01$). The results suggest that garlic extract can be supplemented to the calves for better performance.



Performance of crossbred calves with dietary supplementation of garlic extract.

[Ghosh S](#), [Mehla RK](#), [Sirohi SK](#), [Tomar SK](#).

Department of Livestock Production and Management, College of Veterinary Science and Animal Husbandry, Madhya Pradesh Pashu Chikitsa Vigyan Division of Dairy Cattle Breeding, National Vishwavidyalaya, Rewa, MP, India Dairy Research Institute, Haryana, India.

Abstract

Twelve crossbred calves (Holstein cross) in their pre-ruminant stage were used to study the effect of garlic extract feeding on their performance and they were randomly allotted into treatment and control groups in equal number. Performance was evaluated by measuring average body weight (BW) gain, feed intake [dry matter (DM); total digestible nutrient (TDN) and crude protein (CP)], feed conversion efficiency (DM, TDN and CP), fecal score and fecal coliform count. Diets were same for both groups. In addition, treatment group mg/kg BW/day/calf. BW measured received garlic extract supplementation at 250 weekly, feed intake measured twice daily, proximate analysis of feeds and fodders analyzed weekly, fecal scores monitored daily and fecal coliform count done weekly. There was a significant ($p < 0.01$) increase in mean BW gain and feed intake and a significant ($p < 0.01$) decrease in severity of scours as measured by fecal score in the treatment group compared to the control group. The results suggest that garlic extract can be supplemented to the calves for better performance.



Effect of fresh dietary garlic powder on some of the serum biochemical parameters in broiler chicks

[Ramezan Ali Jafari](#), [Mohammed Razi-Jalali](#) and [Rezvan Kiani](#)

Abstract

The aim of the present study was to investigate the effect of garlic, in powder form, on protein fractions of broiler chicks' sera. Two hundred and eighty, 2-day-old Ross chicks were randomly divided into four groups: A and B (52 each) and C and D (88 each). The chicks in groups A and B were fed control diet, but those in groups C and D received diet supplemented with 1% and 3% garlic powder, respectively. To evaluate the effect of consumption period of garlic on immune response, half of the chicks in groups C and D were separated after the second bleeding as groups E and F and were fed control diet until the end of the experiment (6 weeks). All groups except A were inoculated against Newcastle disease, avian influenza, and infectious bursal disease. Fifteen birds were bled from each group on days 21, 32, and 42 and also five birds on day 2. The sera were assayed for prealbumin (pre-ALB), ALB, α -1, α -2, β , and γ globulin using bidimensional gel electrophoresis. The results showed that the aforementioned parameters, except γ globulin, were not affected by the diet ($p > 0.05$). The level of γ globulin had a decline with age in group A, whereas it increased in all vaccinated groups. Furthermore, when compared with group B, treated groups had a significantly higher amount of γ globulin from day 21 onwards, and the increase was dose dependent. Also, the removal of garlic from the diet of group E resulted in a significant drop in γ globulin, in relation to group C, on day 42. It is concluded that garlic powder has the potential to increase serum γ globulins in broiler chicks vaccinated against common poultry pathogens.

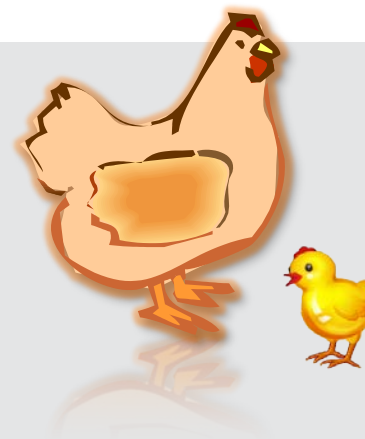
Keywords Bidimensional gel electrophoresis - Broiler chicken - Garlic - Serum - Protein



FOR POULTRY

G-NUTRA 2S DAT HELPS MAINTAIN FEED INTAKE AT OPTIMUM LEVELS AND RESULTS IN IMPROVED BETTER FEED CONVERSION, GROWTH FASTER, CLEAN MEAT

- Enhance appetite
- Immune enhancer
- Growth Promoter
- Increase weight gain
- More survivability
- Clean meat production



FOR DAIRY/BEEF CATTLE & SHEEP/GOAT

- Eco-friendly works to reduce methane gas production by dairy/beef cattle by 50%
- Enhancing immunity
- Clean environmental aid
- Growth faster
- Reduces risk of pathogen infection

