







The liver is the main purifying filter of the organism. It is responsible of more than 300 functions and prevents sugars, fats, amino acids reach the blood.

The main functions of the liver are:

Metabolic function: metabolism of carbohydrates, lipids, protein, minerals and vitamins.

Function of storage: glycogen, vitamins A, D and B12 and iron.

Excretory function: bile pigments, bile salts, and cholesterol are excreted from the bile into the intestine.

Function of protection and detoxification: Elimination of toxins and other harmful substances.

The liver is one of the most overloaded organs in the body, often this organ is attacked by:

Feeding components: mycotoxins, ROS, Heavy metals

Environmental: virus, bacteria, parasites Pharmaceutical products: albendazole Administration: overcrowding and stress

The liver does not have any nerves, so liver disease does not normally cause pain. Impaired liver function may contribute to other unrelated diseases. When the liver is damaged, Three things happen.

More treatments Less productivity Less profit

IGUSAFE WS is a hepatomodulator, due to its composition in artichoke extract rich in polyphenols such chlorogenic acid, protects and regenerates hepatocytes improving liver functions, reinforces its functions, has antioxidant properties and improves animal performance.

It has a choleretic and cholagogue effect stimulating the segregation of bile, promoting the neutralization of endotoxins and exotoxins, antioxidant properties and improves lipid metabolism, reduces the synthesis of visceral fat and increases the use of fatty acids for energy.

Leads to a considerable improvement in animal consumption with high ROI.

It contains also Betaine with regulatory effect of osmotic pressure, acts as a donor methyl group to form methionine and reduces thermal stress.





## Indications in poultry

Performance improvement

Digestive disorders

Drop in productivity (weight, laying rate)

Low feed intake

Peak of mortality due to viral infections (IBH)

Fatty liver

Heat stress





## Success trial:

**Objetive:** to evaluate the dietary effects of Igusafe WS on the growth performance and profitability of the carcass.

## Product:

Control: Typical commercial diet without additives.

Igusafe WS: typical commercial diet + 250 grams/1000 liters of water.

**Antimicrobial**: Typical commercial diet+400 grams (Doxycycline 10%/Neomycin 10%)/1000 liters of water

**Test**: A total of 73,000 one-day-old Ross broilers were randomized to 4 households, 2 households of 19,000 and 17,100 broilers received the control treatment, while one household of 17,900 drank the Igusafe WS treatment and Another house with 19,000 broilers received antimicrobial treatment.

Figura 1: Effects of IGUSAFE WS water addition on the growth performance of broilers.

Total input	73.000	HOUSE	N1	N2	N3	N4
		Treatment	Antimicrobial	Control	Igusafe WS	Control
		Insert	19000	19000	17900	17100
Harvested	71.644	Breed	ROSS	ROSS	ROSS	ROSS
		Code	02	02	03	03
		Harvested	18648	18724	17424	16848
Survival %	98,1	Survival %	98,1	98,5	97,3	98,5
Bag / 1000	54.62	Bag / 1000	53,21	57,10	52,85	55,32
ADG	55.19	ADG	55,27	54,53	56,31	54,73
FCR	1.50	FCR	1,45	1,54	1,48	1,52
Final weight	1.82	Final weight	1,83	1,85	1,79	1,82
%9PC	87.18	% 9PCS	84,90	86,01	89,86	87,96
AVG catching days		33,02	33,2	34,0	31,8	33,2
EPEF		362	374	349	371	354





**Figure 2**: Effects of the addition of IGUSAFE WS water on the economic benefit of the production of broilers

Treatment		Antimicrobial	Control	Igusafe WS	Control
Total cost		5.681	5.681	5.352	5.113
Feed cost	Starter	7.644	7.464	8.484	8.064
	Grower	12.297	13.920	10.205	10.616
Medication	Medication	271	218	218	218
	Vaccination	744	744	704	674
Profit		35.221	35.770	34.496	31.515
Total cost		26.637	28.027	24.964	24.685
Gross Profit		8.584	7.743	9.533	6.829
Profit/Bird		0,45	0,41	0,53	0,40

## **Conclusions:**

The inclusion of Igusafe WS showed a positive effect on the voluntary intake of the initiation phase, this was related to a higher growth rate than the inclusion of antimicrobials. Consequently, it produces greater economic efficiency that shows an increase in individual profit by more than 18%.