

# BOLUS

POLISH  
PRODUCT

## MINERAL-VITAMIN


*With extended release period -  
up to 90 days.*



<b>Zn</b>	19 350 mg
<b>Mn</b>	16 000 mg
<b>Cu</b>	6 160 mg
<b>I</b>	980 mg



<b>Co</b>	390 mg
<b>Se</b>	170 mg
<b>Vit. A</b>	2 340 000 IU
<b>Vit. D3</b>	351 000 IU
<b>Vit. E</b>	2 340 mg



## SUPPLEMENTATION OF NECESSARY MICROELEMENTS and VITAMINS IN COWS AND YOUTH

*Bolus researched and tested at SGGW. Manufactured in accordance with GMP+ system.*

**Dietary compound feed for cattle.**

**Recommended use:** In order to supplement necessary microelements and vitamins in high-yield cows and beef cattle.

**Application:** Milk cows – apply 2 boluses with the use of applicator into the mouth at the beginning of drying out period. Heifers in calf – apply 1 bolus 6-8 weeks before calving; youth up to 300 kg – apply 1 bolus in any given period.

**Storage:** At room temperature, avoid moisture.

**Shelf life:** 18 months from the date of manufacture.

**Packaging:** 8 boluses, each weighing 110 g.

Manufactured by JFARM, ul. Magazynowa 1A  
07-417 Ostrołęka, tel. 29 767 87 41, mobile phone 603 999 268  
www.jfarm.pl, e-mail: biuro@jfarm.pl



**The results of efficiency research of Mineral-Vitamin Bolus carried out using in vivo method at the Warsaw University of Life Sciences (Department of Pathology and Diagnostic Veterinary), on a group of 24 cows with average milk yield 8485 kg, studied for 12 months in the years 2014 - 2015.**

**Tab. 2. Average concentration of Cu and Zn in the blood after the application of 2 Mineral-Vitamin Boluses.**

Blood collection	Copper ( $\mu\text{mol/l}$ )		Zinc ( $\mu\text{mol/l}$ )	
	x	SD	x	SD
A	7,68	1,97	9,12	1,62
B	13,99	3,48	12,83	1,60
C	12,15	2,64	12,88	1,66
D	13,46	4,85	10,06	1,25
E	-	-	-	-
F	12,95	4,56	11,75	1,43
G	12,66	1,74	10,30	1,07

A - blood collection for laboratory tests before the application of Mineral-Vitamin Boluses.

B - blood collection for laboratory tests after 14 days from the application of 2 Mineral-Vitamin Boluses.

C - blood collection for laboratory tests after 30 days from the application of boluses.

D - blood collection after 45 days from the application of boluses.

E - blood collection for laboratory tests after 60 days from the application of boluses.

F - blood collection for laboratory tests after 90 days from the application of boluses.

G - blood collection for laboratory tests after 120 days from the application of boluses.

x - arithmetic mean.

SD - standard deviation.

The results presented in the table above clearly prove the release of copper and zinc elements over a period of 120 days from the application of 2 boluses. Copper level in the blood before the application of boluses was 7,68  $\mu\text{mol/l}$ , and after the application of 2 boluses and 120 days, this level increased by 65% and amounted to 12,66  $\mu\text{mol/l}$ .

After 120 days from the application of boluses, the concentration of zinc in the blood has increased by 13 %.

Table 6 shows the increase in the content of essential vitamins: A, D3, E after the application of 2 Mineral Boluses.

**Tab. 6. Average concentration of vitamin A, D3 and E in the blood of tested group of cows after the application of Mineral-Vitamin Boluses.**

Blood collection	Vit. A IU ( $\mu\text{mol/l}$ )		Vit. D3 IU ( $\mu\text{mol/l}$ )		Vit. E ( $\mu\text{mol/l}$ )	
	x	SD	x	SD	x	SD
A	0,75	0,03	2885,4	857,73	9,52	0,96
C	0,82	0,03	4965,7	931,14	12,29	1,84

A - blood collection for laboratory tests before the application of Mineral-Vitamin Boluses.

C - blood collection for laboratory tests after 30 days from the application of 2 Mineral-Vitamin Boluses.

x - arithmetic mean.

SD - standard deviation.



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**Tab. 16. Average content of triglycerides, high-density lipoprotein and concentration of magnesium and phosphorus in the blood of tested cows after the application of Mineral-Vitamin Boluses.**

Blood collection	TRIG mg/dl		HDL mg/dl		Mg mg/ dl		P mg/ dl	
	x	SD	x	SD	x	SD	x	SD
A	12,48	6,04	122,2	54,4	1,88	0,47	6,98	1,30
B	13,25	4,57	164,2	53,1	2,27	0,37	6,04	1,32
C	12,05	4,82	175,0	26,4	2,26	0,45	5,33	0,75
D	10,87	2,37	169,3	51,5	2,42	0,29	4,96	0,54
E	14,97	2,98	196,3	32,9	2,1	0,34	4,76	0,28
F	12,08	2,38	200,6	31,1	2,33	0,46	5,08	1,21
G	14,30	0,16	178,5	13,82	2,44	0,36	0,36	0,22

A – blood collection for laboratory tests before the application of Mineral-Vitamin Boluses.

B – blood collection for laboratory tests after 14 days from the application of 2 Mineral-Vitamin Boluses.

C – blood collection for laboratory tests after 30 days from the application of boluses.

D – blood collection after 45 days from the application of boluses.

E – blood collection for laboratory tests after 60 days from the application of boluses.

F – blood collection for laboratory tests after 90 days from the application of boluses.

G – blood collection for laboratory tests after 120 days from the application of boluses.

x – arithmetic mean.

SD – standard deviation.

**Tab. 31. Characteristics of the selected indicators of cow reproduction and milk quality (n=24).**

Indicator	before the application of bolus	after application of 2 min.-vit. boluses	% of changes
General condition of cows (estimated assessment)	quite good	good	approx. +10%
Length of inter-calving period (days)	419	394	-6%
% of cows, in which estrous period occurred up to 60th day after the birth	91	96	+5%
effectiveness of 1 insemination (% of cows)	79	88	+5,2%
% of cows that became pregnant within 3 procedures	94	98	+4%
average number of semen portion for effective coverage	2,5	2,1	-16%
acidity of the milk	6,1 SH	7,0 SH	+14,7%
average number of somatic cells in the milk (100 000)	1,7	1,2	-29,4%

The presented results of tests after the application of Mineral-Vitamin Boluses and observation of cows for the period of 12 months, clearly demonstrate their positive impact on the reproduction indicators and milk quality – decrease in the number of somatic cells.

## THE USE OF MINERAL-VITAMIN BOLUS HEAVILY AFFECTS:

IMPROVEMENT OF REPRODUCTION INDICATORS



REDUCTION OF SOMATIC CELLS IN THE MILK



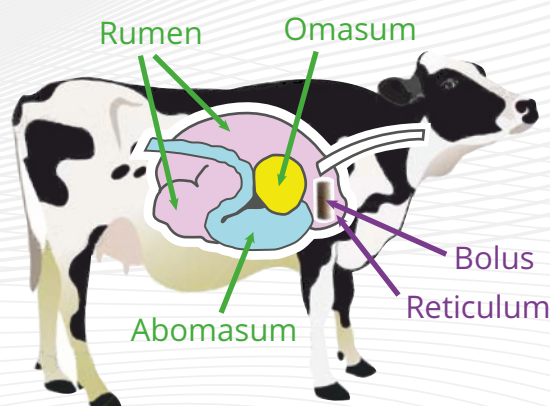
REDUCTION OF THE RISK OF RETAINED PLACENTA



IMPROVEMENT OF HEALTH AND IMMUNITY



BETTER QUALITY OF COLOSTRUM



Approximate level of daily release of the ingredients from  
2 boluses (over the period of max. 90 days)

<b>Zinc (Zn)</b>	430 mg	<b>Selenium (Se)</b>	3,75 mg
<b>Manganese (Mn)</b>	354 mg	<b>Vitamin A</b>	52 000 IU
<b>Copper (Cu)</b>	138 mg	<b>Vitamin D3</b>	7 800 IU
<b>Iodine (I)</b>	22 mg	<b>Vitamin E</b>	52 mg
<b>Cobalt (Co)</b>	8 mg		