

THE ABILITY TO REDUCE SELENITE EXTRACELLULAR INTO SELENIUM NANOPARTICLES (Nano-Se) WAS DEMONSTRATED IN SELECTED *B. SUBTILIS* IMVB B-7393, IMVB B-7392 AND *BACILLUS CLAUSII* STRAINS. TRANSFORMATION Na_2SeO_3 WITH INTRACELLULAR NANO-SE SYNTHESIS WERE PRESENTED IN *L. CASEI* IMV B B-7280 AND *L. PLANTARUM* IMVB B-7679

L. CASEI IMV B-7280

INTERCELLULAR SYNTHESIS OF NANO-SE

L. PLANTARUM IMV B B-7679

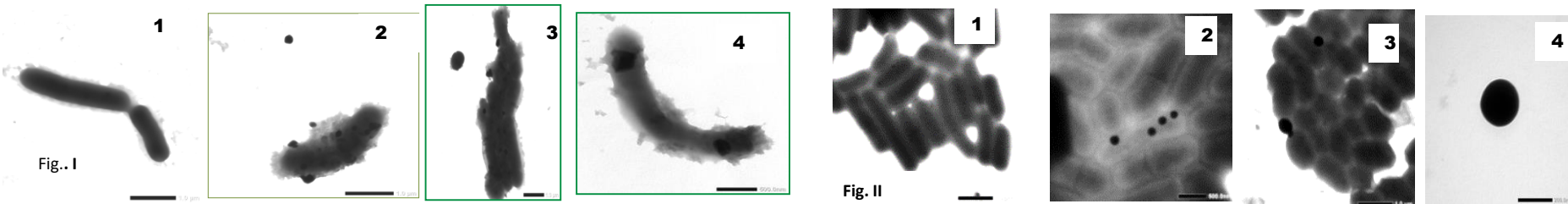


Fig. I. II. Transmission microscopy (TEM) of *L. casei* IMV B-7280 and *L. plantarum* B-7679 formation of nanoselenium (Nano-Se) during Na_2SeO_3 transformation. I.1 and II.1. cell control. Intracellular synthesis of Nano-Se by strains B-7280 (I.4) and B-7679 (II.2). Nano-Se particles, which were formed during the cultivation of cells of strain B-7280 (I.2; I.3) and B-7679 (II.3; II.4) in MRS medium with the addition of sodium selenite.

EXTRACELLULAR REDUCTION OF SELENITE IONS BY STRAINS *B. SUBTILIS* B-7393 AND B-7392 DURING THE TRANSFORMATION OF Na_2SeO_3 WAS DETERMINED

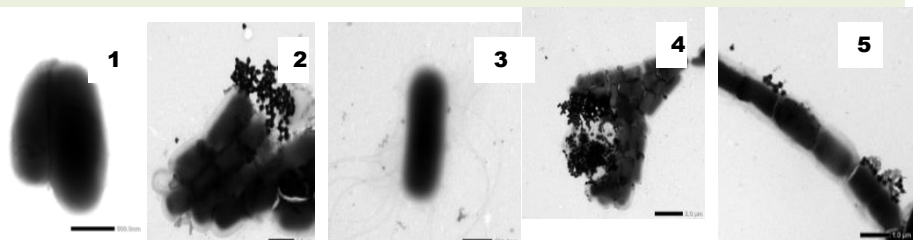


Fig. IV. TEM of strains B-7393 and B-7392 which have reduce selenite ions during Na_2SeO_3 transformation. Performed on a JEM-1400 electron microscope. 1. Control of strain B-7392 2. Formation of biogenic Nano-Se by strain B-7392; 3. Control of strain B-7393. 4.5. Formation of biogenic Nano-Se by strain B-7393.

Fig. III. The formation of Nano-Se by strain B-7679 with the addition of different doses of Na_2SeO_3 .



EXTRACELLULAR SYNTHESIS OF NANO-SE BY *B. CLAUSII* WAS VISUALIZED

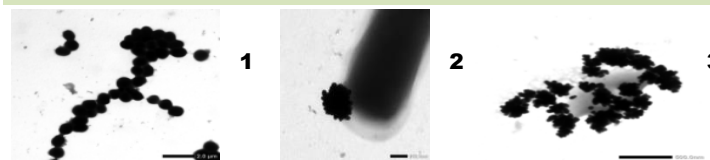


Fig. V. TEM -Biosynthesis of selenium nanoparticles using *Bacillus clausii*. 1-control of *B. clausii*; 2; 3. *B. clausii* synthesis of exogenous Nano-Se. Done on JEM-1400.

EFFICIENCY OF APPLICATION OF DRY SELENIUM-CONTAINING PROBIOTIC BASED ON STRAIN B-7679 FOR GROWING YOUNG QUAILS

Table 1. Feed consumption per 1 kg of body weight gain, increasing the survival rate of quails and average daily weight gain of their body

* - $P < 0,05$

Group (characteristics of feeding)	Feed consumption per 1 kg of body weight gain, kg	Preservation Livestock, %	Weight gain of quails (1-35 days), g
Control, BD (basic diet)	3,88 ± 0,12	90,0	5,55±0,21
Received BD + 0.3 mg Se/kg in feed (0.3 ppm Se as Na_2SeO_3 supplement)	3,76 ± 0,19	93,3	5,79±0,18
Quails received BD + strain B-7679 1.0×10^6 CFU per head/day 0.3 mg Se/kg in feed in the form of Na_2SeO_3 transformed into biogenic nanoselenium (0.3 ppm Se)	3,58 ± 0,16	95,0	6,00±0,23*