

## Chelbonit<sup>®</sup>-16

Chelbonit<sup>®</sup>-16 is a trademarked ruminant nutrition product (registered U.S. and Israeli patents) designed for livestock rations.

Chelbonit is comprised of select enzymes, carbohydrates, minerals and essential amino acids that are protected and released in a controlled manner in the rumen and intestinal tract. The unique composition of the product was carefully designed using the advanced technologies of the animal feed industry to provide for specific physiological needs.

Chelbonit is produced and marketed by Chelbonit Inc. The product was developed in Israel by Dr. Eliezer Smoler, with the financial backing of the Chief Scientist of the Israeli Ministry of Trade and Industry. Dozens of dairy farms throughout Israel have purchased Chelbonit, after the supplement was tested in feasibility studies carried out at the metabolic unit of the Israeli Agriculture Ministry's Volcani Center – Agricultural Research Organization. Chelbonit was also tested in field trials and observations that took place over a five-year period with thousands of heads of cattle, in various climatic conditions, under the intensive feeding regimens of the Israeli dairy cattle industry.

Chelbonit's main contribution is the improved efficiency of the animal. The product's primary effects include enhanced production—both in milk and beef—while reducing food intake levels. Chelbonit improves the digestibility of different feed components in the rumen and intestines, which as a result increases the absorption of nutrients, thereby providing enhanced benefit from the food consumed.

Chelbonit causes increased growth of the bacteria population in the rumen, enhancing the benefit provided by the food consumed, and increasing the supply of amino acids to the intestines. This in turn results in improved economic efficiency for the producer.

When added to the planned daily ration, Chelbonit increases the producer's revenue in two ways:

- Increasing production of economy-corrected milk (ECM) by 2 kg/day.
- Reducing food intake by 5%.

The individual producer's calculation will be based on the specific farm conditions (number of head, milk quotas, summer milk production, winter milk production, etc.).

Chelbonit assists with the following:

- Stabilization of rumen acids
- Increased metabolism of proteins and carbohydrates
- Enhanced supply of microbial proteins
- Increased level of bypass protein
- Increased level of metabolic protein
- Enhanced absorption of nutrients

- Enhanced performance (milk, ECM, physical growth, feed utilization, economic efficiency)
- Improved milk quality (additional milk solids)
- Improved status of the digestive system (less cases of diarrhea)
- Reduced release of nitrogen in the environment
- Reduced release of fluids in the environment

## ***Trials and Observation Results for Chelbonit®-16***

### **Dairy Cattle**

- ***Kibbutz Beit Kama herd*** – Chelbonit®-16, experimental and control groups (total of 80 cows), 60-day observation. Results: Increased daily milk production by two kg/cow
- ***Kibbutz Beit Alpha herd*** – Chelbonit®-16, experimental and control groups (five months total trial time, including cross-checking of groups), with 20 cows, individual computerized feeders, and robotic milking. Results: Average daily increase in milk production and milk solids of 1.5 kg, with a maximum of 2.5 kg.
- ***Kibbutz Givat Haim Meuhad herd*** – Chelbonit®-16, observed in a commercial herd of 450 cows. Extended study over an 11-month period. Results: Increased daily ECM production, including in summer, by 2 kg.
- ***Kibbutz Ein Hanatziv herd*** – Trial with 170 cows over 7 months, including cross-checking of the groups. Results: Increased daily milk production by 2.4 kg, ECM by 1.1 kg (significance level:  $p < 0.05$ ). 5% reduction in feed intake ( $p < 0.001$ ), 6.6% increase in efficiency, as well as significant improvement in summer milk production. (Publicized in *Mashov*, Israeli farmers magazine).
- ***Kibbutz Messilot herd*** – Trial on 70 cattle. Half of the cows in first third of lactation, half of the cows in last third of lactation. Length of the trial – 2.5 months. Results: 1.8 kg daily increase in ECM production, 1.6 kg daily increase in milk production ( $p < 0.03$ ). 6% decrease in feed intake. (Article by Dr. Doron Bar, veterinarian of the Hachaklait veterinary service, publicized in the Israeli Cattle Breeders Association bi-monthly, *Meshek Habakar Vehachalav* (The Dairy and Beef Farm)).
- ***Kfar Vitkin Feed Center*** – Observation of 400 cattle over several months. Results: Improved daily ECM production by 1.9 kg, reduced feed intake by 6%.

## Beef Stockers

- ***Kibbutz Hatzor herd*** – Chelbonit<sup>®</sup>-16, experimental and control groups, 120 beef stockers, Israeli Holsteins and mixed breed (Polish imports). 70 grams more daily gain and feed efficiency achieved by the Chelbonit-fed group.
- ***Kibbutz Ein Hanatziv herd*** – Chelbonit<sup>®</sup>-16, Israeli Holstein and mixed breed stockers in a commercial herd. 80 grams more daily gain and a 3% reduction in feed consumption by the Chelbonit-fed group.
- ***Moshav Nahalal herd*** – Chelbonit<sup>®</sup>-16, 160 beef stockers. 76 grams more daily gain and a 0.75% reduction in feed consumption by the Chelbonit-fed group (p=0.09). (Research supervised by Dr. Meori Rosen of the Ministry of Agriculture's Beef Cattle Extension Service).