the Dairy Industry in Israel 2011

Israeli Company for Artificial Insemination & Breeding Ltd.

Israel Cattle Breeders Association

Mutual Society for Clinical Veterinary Services

The Dairy Industry in Israel 2011

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On the cover:
Thanks to Yoav Tzur for the photo of "Zehava" – the beautiful cow in Moshav Beer Tuvia .

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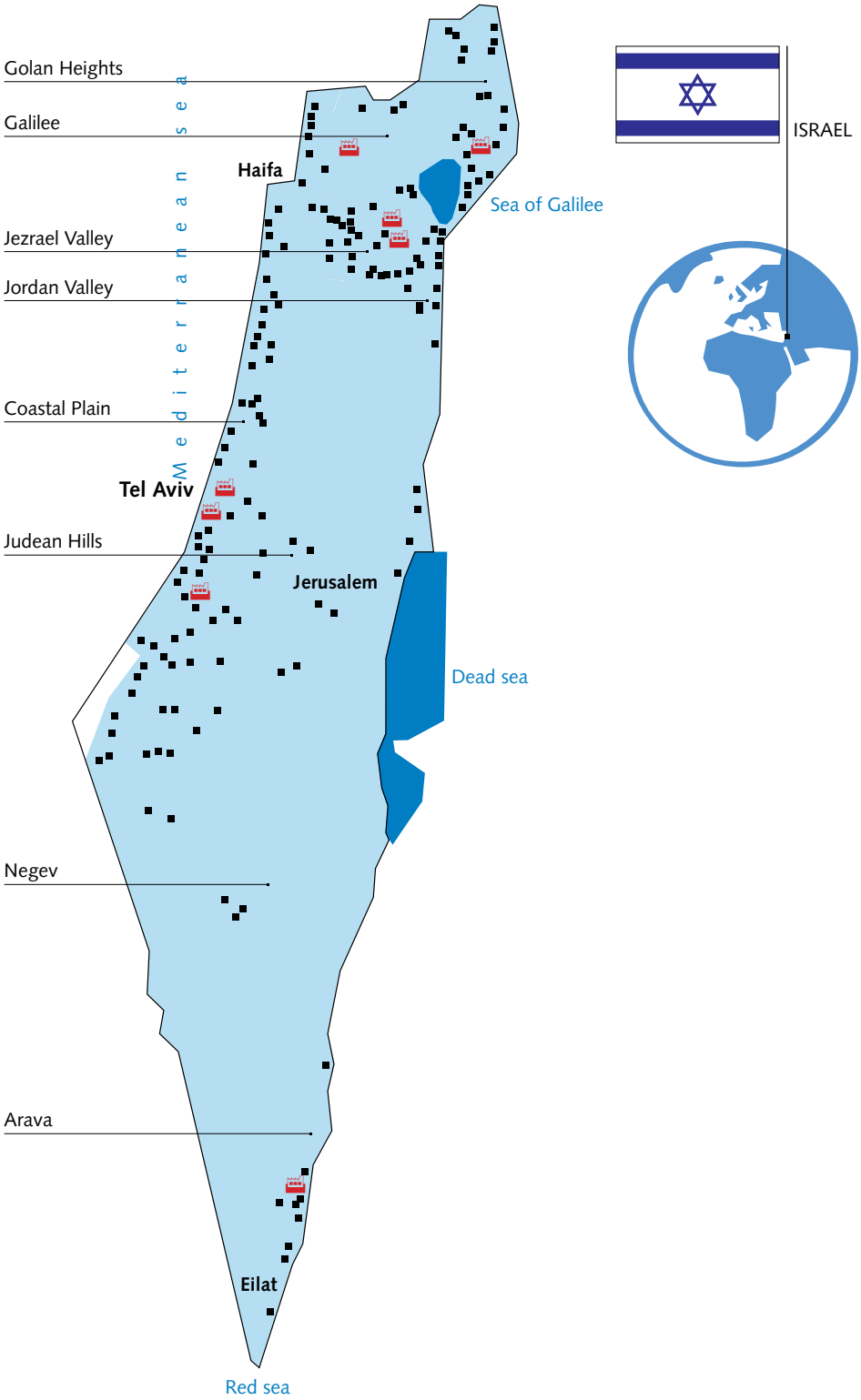
Map of the Dairy Industry in Israel – Main Dairy Plants and Dairy Farms

Dairy Plants

Dairy Farms



PART 1
The Israeli Dairy Industry

The Dairy Industry in Israel

The Dairy Industry is one of the leading sectors in Israel's agriculture, is spread across the country, and counts as one of the major agriculture activity in the rural parts of the country. It supplies about 80% of the Israeli domestic demand for milk and dairy products, while the rest is supplied by imports.

The annual production is of about 1.3 million liters of cow milk, and the value of all processed dairy products reaches 1.5 billion US$.

The Israeli supermarket shelves are bursting with a variety of over 1,000 healthy, innovative and tasty dairy products which can be compared with the state-of-the-art dairy industries worldwide.

Milk is produced by 970 farms, countrywide. The national dairy herd comprises of about 120,000 milking cows of the Israeli-Holstein breed. The breed has been developed by the Israeli Genetic Improvement system. The fact that the common Israeli milking cow has been selected from local breeding stock throughout generations brings it to be well adapted to the harsh Israeli unique environment: long and hot summers and endemic diseases.

The Israeli Herd-book (DHI) receives and processes information from the official milk production control system, which includes 90% of the dairy herd in the country. In addition to production data, the Israeli Herd-book incorporates information from the Breeding system and from the Society for Veterinary services – "HaChaklait". Such comprehensive structure of the Israeli Herd-book, provides farmers with useful multi-disciplinary information, which is used for data-based management analyses and decision-making processes. Accurate information combined with the professional skills of the Israeli dairy farmers has led to outstanding world-scale achievements. Indeed, the Israeli cow has the highest national milk production (cow/year) and milk solids yields in the world. In 2011, the average annual milk yield per cow was 11,667 kg, with 3.20% of protein (373 kg) and 3.62% of fat (423 kg).

National per-capita consumption stands on 176 kg in fluid milk equivalent basis, and is on rising for the last few years. As in other parts of the world, the Israeli consumer is becoming more price conscious, and the industry is challenged with the need to provide the same high quality products with lower price levels.

In March 2011 Israeli Parliament (Knesset) has voted on behalf of a "Milk Law".

The core issue the low deals with, is anchoring the rights of all entities involved in the dairy industry, and particularly the dairy farmers. It determines the quota production system and defines the target price to be paid to raw milk producers.

This is an historic step for the local dairy farming, and it well might be a unique legislative framework worldwide – establishing by state law the fair game rules between all parts involved in the dairy industry, plus ensuring and formulating a minimum target price for raw milk.

We are pleased to present you with this summary of the Israeli Dairy Industry for 2011 and hope this will shed light on how the Israeli Dairy Farm has become known as a source of knowledge and pride.

Sincerely,

Yaacov Bachar
Israel Cattle Breeders Association
General Manager

The Agricultural Sector in Israel

Rachel Borushek Israel Farmers' Federation [rachel_b@mail.netvision.net.il]

Economic and financial data of Israel and its agricultural sector
(1 US$ = 3.58 NIS)

Table 1.1

Population	7.77 million inhab.
GDP per cápita	112,060 NIS =31,330 US$
GDP of Agricultural Sector	12.76 NIS Billions = 3.6 US$ Billions
Share of Agriculture in National GDP	1.6%
Share of Agriculture in the Business Sector GDP	2.1%
Direct Employment in Agriculture as share of National Labor Force	2.0%
Self-sufficiency of Agricultural Products	80.0%

Marketing value of agricultural products. Value as received by productor (NIS million)
(1 US$ = 3.58 NIS)

Table 1.2

Crops	17,104	55%
Livestock and livestock products	11,298	36%
Thereof raw milk	2,883	9%
TOTAL	**31,401**	**100%**

Israel's agricultural sector is characterized by an intensive production system, which stems from the need to overcome the scarcity of natural resources, particularly water, land and labor.
Half of arable land is irrigated. Israel is unique amongst developed countries in that land and water resources are nearly all state-owned. Growing labour productivity was a key contributor to the almost two-fold increase in total factor productivity in agriculture in 1990-2011, much stronger than in any other sector of the Israeli economy.
The agricultural sector's high level of development is due to the close cooperation and interaction among scientists, extension advisers, farmers, and agriculture-related industries.
These four elements have joined together to promote advanced technologies in all agricultural branches.
The result is modern agriculture in a country, half of which is defined as desert.

Total agricultural produce in 2011 accounted for 1.6% of the GDP. Despite the decrease in the number of farmers' and agriculture's share in the GDP, agriculture plays a significant role as a major food supplier to the local market and is an important factor in Israeli export.

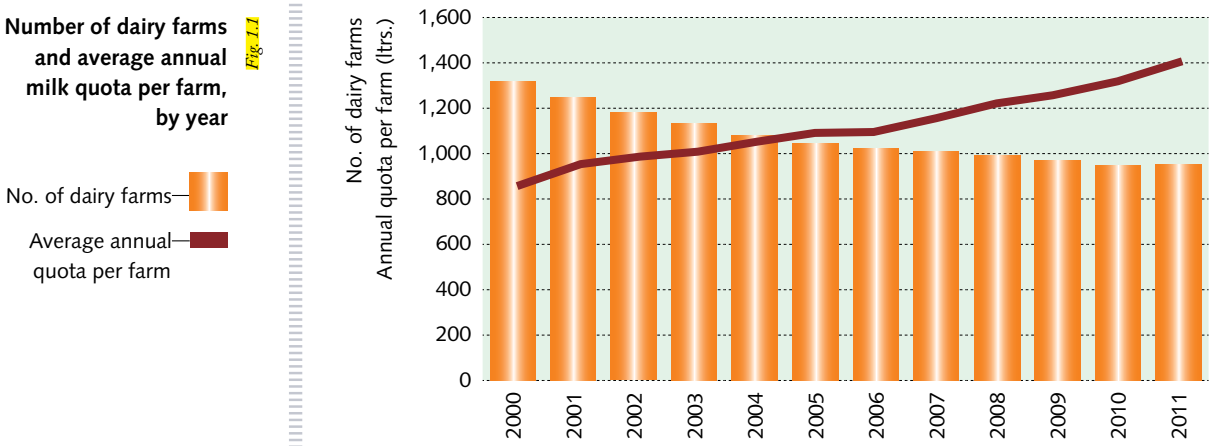
Some 60,000 people were directly employed in agriculture in 2011. This number represents 2.3% of the country's active labor force.
Over the last two decades, there was a strong increase in the number of foreign workers employed in the Israeli agriculture. Their total number and allocation are strictly regulated by the government, which is planning to reduce the number of working permits allocated to the agricultural sector from 25,900 in 2008 to 18,900 by 2015. As compensation, farmers will be offered investment support over 56 years (grants up to 40% of investment) for replacing labor with machinery.

Dairy Farming in Israel

No. of dairy farms, by farm type, and average annual milk quota per farm (x 1,000 ltrs.) *Table 1.3*

	2005	2006	2007	2008	2009	2010	2011
Family farms (Moshav)							
Number	855	843	830	811	787	774	776
Average quota (x 1,000 ltrs.)	560	555	587	648	641	672	714
Cooperative farms (Kibbutz)							
Number	176	167	165	165	165	163	163
Average quota (x 1,000 ltrs.)	3,747	3,859	4,156	4,451	4,241	4,408	4,728
Agric. school farms							
Number	16	15	15	15	15	15	15
Average quota (x 1,000 ltrs.)	746	781	810	866	848	865	906
Total							
Number of farms	1,047	1,025	1,010	991	967	952	954
Average quota (x 1,000 ltrs.)	1,098	1,096	1,174	1,285	1,258	1,315	1,403

Number of dairy farms and average annual milk quota per farm, by year *Fig. 1.1*



Types of Settlement

Much of Israel's agriculture is based on cooperative settlements, which were developed in the early 20th century. The Kibbutz is a large collective production unit. Kibbutz members jointly own the means of production and share social and economic activities. At present, most of the Kibbutz income comes from industrial enterprises owned by the collective unit. Another type of settlement is the Moshav, which is based on individual farms yet organized as a cooperative society. The residents in both types of settlements are provided with a package of municipal services. The Kibbutz and the Moshav currently account for 83% of the country's agricultural produce.

In addition to the Jewish agricultural sector, Arab villages are located in Israel's rural areas. Theses villages focus mainly on production of small livestock (sheep and goats), vegetables, field crops and olives.

All the Kibbutz dairy herds participate in the DHI system and represent 63% of the cows with recorded production. Their average milk yield in 2011 was 12,100 kg/cow/year and the average production of protein and fat was 835 kg/cow/year. Approximately 75% of the Moshav dairy herds participate in the DHI system and represent 37% of the cows with recorded production. Their average milk yield in 2011 was 11,163 kg/cow/year and the average production of protein and fat was 773 kg/cow/year.

Annual Milk Quota and Milk Supply

Liron Tamir ..... Senior Economist, Israel Dairy Board [liron@is-d-b.co.il]

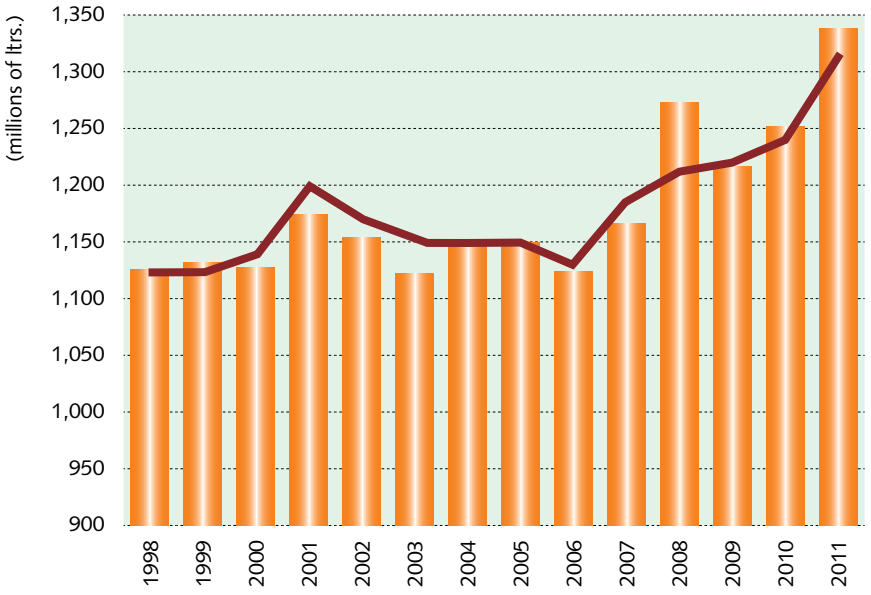
Milk production in Israel is carried out under a quota system, where the annual volume is divided into monthly quotas. Economic incentives have been set to encourage dairy farmers level-up production throughout months, so that milk supply to the industry is more uniform throughout the year.

The base price for the milk to the producer is agreed upon between government, farmers and dairy industries. The price reflects the average cost of production plus an agreed return for the farmers' labor and invested capital.

Cow milk – annual supply and quota (millions of ltrs.) *Table 2.1*

Year	Milk supply (millions of ltrs.)	Milk quota (millions of ltrs.)
1998	1,126	1,124
1999	1,132	1,124
2000	1,128	1,140
2001	1,174	1,200
2002	1,154	1,170
2003	1,122	1,150
2004	1,146	1,150
2005	1,150	1,150
2006	1,124	1,130
2007	1,166	1,185
2008	1,273	1,212
2009	1,217	1,220
2010	1,252	1,240
2011	1,338	1,313

Cow milk – annual supply and quota (millions of ltrs.) *Fig. 2.1*




במקום זה
חניה אסורה

Israel's Dairy Sector, Efficient and Environment Friendly

Dr. Israel Flamenbaum [israflam@inter.net.il]

The significant fluctuation in international grain and milk prices experienced recently have led many countries in the emerging economies to consider the establishment of their own milk production sectors. These countries are seeking ways to produce milk efficiently, while making use of local inputs and overcoming climatic and environmental limitations. As similar conditions have existed for many years in Israel, it is expected that the knowledge and experience gained in Israel can serve these countries when developing their own dairy sectors.

The following article describes Israel's dairy sector and its production system, which is considered to be one of the most advanced and efficient in the world. We believe that this "production concept" can be widely adopted by new dairy sectors in the process of development in general and those established in hot regions in particular.

The Israeli dairy sector

The Israeli dairy sector consists of near 120,000 Israeli-Holstein breed cows on near 900 dairy farms, of which, near 150 are cooperative large scale farms and 750 are family, small scale farms. Most of the dairy farms in Israel are located in the coast and in the hot valleys. In 2011 the average annual milk production was almost 12,000 kg per cow, containing 3.60% fat and 3.20% protein. Dairy farmers in Israel are well-organized and supported by professional institutions related to Ministry of Agriculture, universities and milk marketing board. Farmer's cooperative companies supply clinical veterinary care and AI services. Israel Cattle Breeders Association (ICBA) owns the local DHI services, based on automatic data flow from the computerized milking equipment - mostly Israeli-made. A uniform Dairy Herd Management Program (NOA) developed and activated by ICBA, serves Israeli farmers with operational decision making.

Israel has a unique dairy sector and milk "production concept" developed to overcome significant limitations caused by permanent water and land shortage and a hot and dry summer lasting between 4–6 months per year. High-input prices, such as imported grains, fuel and machinery, relatively high labour cost, and large investments needed to overcome climatic restrictions make Israel's cost

of milk production relatively high.
The Israeli unique and unconventional production concept is characterized by specialized intensive feeding and management practices of cows living in relatively large dairy farms with full confinement. This concept is based on the belief that under these conditions, the maximization of per-cow production will be most economically viable.

The Israeli unique feeding system is environmentally friendly

Israel's feeding system makes use of relatively high quantities of agro-industrial by-products in cows' diets, substituting costly imported grains while at the same time reducing the amount of roughage in the diet to a minimum. The unique Israeli diet, consisting of relatively high concentrations of energy and protein, allows the maximization of per-cow milk production, while keeping dairy farms environmentally friendly. The incorporation of relatively high quantities of agro-industrial by-products in the diet and the use of forages irrigated with residual water are easily carried out by using a Total Mixed Ration (TMR) as the predominant feeding system. TMR is provided to almost all dairy cows and heifers in Israel through large-scale "regional feeding centres". Most of the forages fed to the Israeli cows are winter crops - mostly wheat silages - grown during the rainy season. Summer forages - mostly corn and sorghum silages - are grown using recycled waste water for irrigation. Approximately half the concentrates in milking cows' diets and almost all the concentrates in heifers' diets are based on agro-industrial by-products, originally from fruit, vegetable and food processing factories.

High productivity means environment friendly cows

The use of large quantities of agro-industrial by-products in cows' diets benefits the Israeli dairy sector by reducing feeding costs while simultaneously avoiding additional expenditure for treating these materials and preventing environmental pollution. Nearly 630,000 tons of fresh agro-industrial materials were used in 2007 to feed dairy cows in Israel, with an overall economic value of US $40 million per year (US $360 per cow or 3.3 cents per litre of milk), equivalent to over 10% of the total per-cow's annual feeding expenses.
High per-cow milk production increases production efficiency by reducing per- milk unit feeding and labour cost. High productivity also reduces cows' contribution to global warming. Methane production per unit of milk produced is reduced with the increase of per-cow production. Due to preliminary results from studies dealing with dairy sector's "carbon footprints", total CO2 equivalent emission per kg of milk produced by Israeli cows is expected to be 80% of that emitted by cows in Western Europe, and only 40% of that emitted by New Zealand cows.

Overcoming the negative effect of summer heat stress

Summer heat stress in Israel negatively affects the cow's performance and production efficiency, causing substantial financial losses to dairy farmers and milk processors.
The Israeli dairy sector has been developing heat-stress relief methods for over 30 years, aiming to enable cows to manifest their full production potential. Cooling cows in Israel is based on water evaporation from the cow's surface by means of a combination of wetting and forced ventilation. This cooling effect was first experimented under Israeli summer conditions and internationally published in the early 80s. A large-scale four-year survey carried out recently, confirmed these experimental results. Intensively cooled cows in summer produced only 0.6 kg/day less than that produced by their herd mates in winter. However, when cows were not cooled in the summer, the gap between daily winter and summer milk production was 3.6 kg/day. The "summer-to-winter production ratio" was 98% for intensively-cooled cows and only 90% for non-cooled cows. Conception-rate of winter-inseminated cows reached 45% among cows of different groups. Intensively-cooled cows reached a conception rate of 34% in the summer, compared to only 17%, in non -cooled cows. Cooled cows required 0.55 kg of feed to produce 1 kg of milk, whereas non-cooled cows required 0.61 kg of feed, a 10% improvement in feeding efficiency.
The experience gained in Israel indicates that both high productivity and production efficiency can be obtained when efficiently cooling cows in summer. Similar results can be expected in other dairy sectors from hot regions of the world in the future.

How can Israeli experience contribute to the development of dairy sectors in the emerging economies?

The Israeli "production concept" is based on obtaining high per-cow yields by overcoming imitations and the use of advanced technologies and management practices. The

establishment of a comprehensive computerized "database" provides highly-professional tools to dairy farmers and their supporting institutions.

The future development of dairy sectors in the emerging economies, most of which are situated in tropical and sub-tropical regions, can be defined in the following way: It is expected that the majority of the demand for milk and fresh dairy products will come from large urban populations. It is expected that most of the milk supplied to these centers is likely to be produced in new and well-equipped dairy farms which, due to the demand for high-quality fresh dairy products, will be established relatively close to the consumption centers. The proximity to the large urban centers will allow the use of large quantities of waste water for forage production and the establishment of large feeding centers, to incorporate cheap agro-industrial residues for cow and heifer feeding. The use of these feedstuffs may potentially reduce feeding cost and at the same time resolve pollution problems, as is achieved nowadays in Israel.

Implementation of efficient cooling methods developed and experienced in Israel will enable minimization of the negative impact of heat stress on the cows, thereby facilitating efficient milk production and preventing seasonality in the supply of fresh milk and products to the market.

Adopting the Israeli experiences in all these fields, as well as the use of sophisticated management tools for efficient management of the farms, as well as establishing supporting institutions and organizations, like those operating in Israel, will allow new dairy sectors in the emerging economies to achieving the goal of efficient supply of dairy products to their growing populations.

National Service for Udder Health & Milk Quality

Dr. Shmuel Friedman.....National Service for Udder Health and Milk Quality, Israel Dairy Board [shmulik@milk.org.il]

The National Service for Udder Health and Milk Quality is a non-profit organization, whose objective is to improve the udder health and milk quality of all milk producers (cows, sheep & goats) in Israel. The organization consists of a Mastitis Control Laboratory, veterinarians and instructors who are responsible for all farms in Israel that wish to employ their services. Payments for the services provided by the National service for Udder Health and Milk Quality derive from the Israeli Dairy Board budget. The following services are provided to all dairy herds:

Laboratory diagnosis and services

- The lab is certificated with the Quality Management Standard ISO 17025 (since 2007)
- During 2011 the lab analysed a total of 111,616 samples
- Analysis of samples from clinical mastitic cows sent by dairy farmers: 12,664 (+5%).
- Analysis of samples sent by farmers from pre-partum cows & sub-clinical mastitis: 31,465.
- Analysis of samples sent by farmers from sheep & goats: 13,093.
- Antibiograms providing information to the clinical veterinarian: 5,219 tests.
- Evaluation of teat dip samples from dairy herds: 572 samples.
- Bulk tank analysis for total bacteria count :135 tests
- Analysis of bedding samples: 62.
- Para-tubercolosis milk test by ELIZA from individual cows and herd level: 40,419.

Udder Health

- Planning and tracing the eradication of contagious mastitis e.g. **Strep. Agalactiae**: 0.3% of the cows are infected
- **Staph. Aureus**: less than 3% of the cows from all the milk samples send by the farmers.
- Advice during the eradication phase.
- Advice to producers with high Somatic Cell Counts and/or high cell plate counts.
- Planning, implementation, and follow up on programs to treat and eradicate mastitis in individual cows and in herds.

Analysis of milking parlours and milking equipment

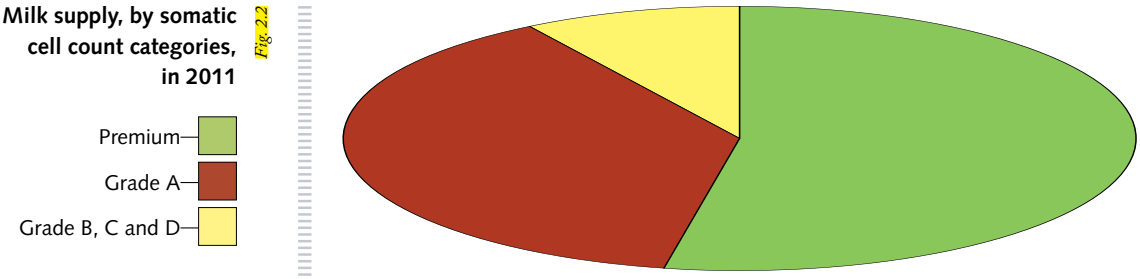
- Advice on milking parlour construction.
- Advice to dairy farmers on milking machine specifications.
- Supervision of companies supplying milking equipment, teat dips and detergents.
- Static and dynamic testing of milk parlours.
- Milk parlor troubleshooting.

Education

- Advice on laboratory facilities and laboratory examinations.
- Organisation of workshops for producers and for dairies.
- Publication of technical news letters.
- Promotion of research projects.
- Field studies.
- Advice, co-ordination, and follow up of all services provided.

Milk Quality

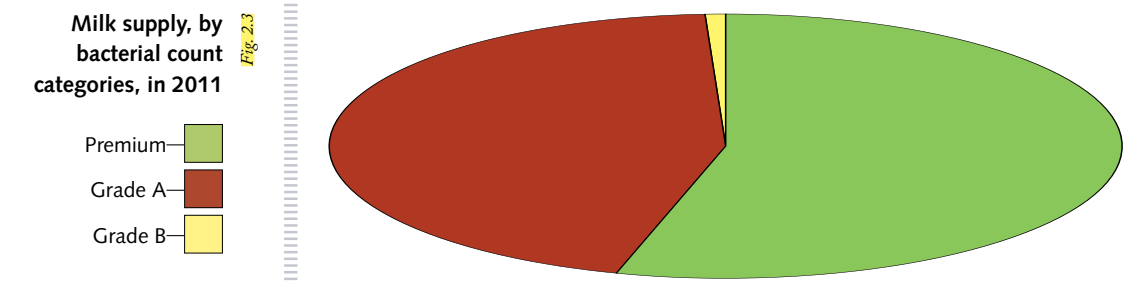
Milk supply, by somatic cell count categories, in 2011 *Fig. 2.2*



SOMATIC CELL COUNT

Quality Grade	Count per ml	% of supplied milk
Premium	Less than 220,000	53.33
Grade A	220,001 – 280,000	37.93
Grades B, C and D	over 280,000	8.74
Total		**100.0**

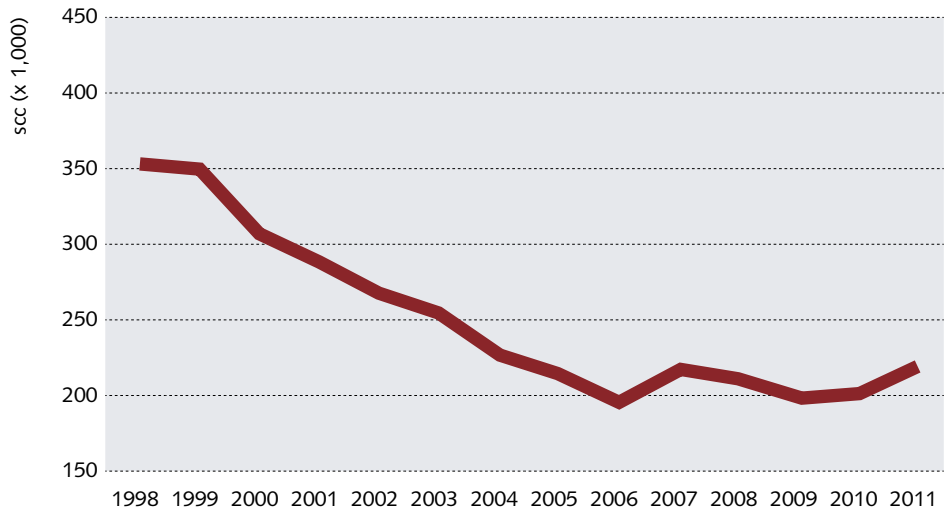
Milk supply, by bacterial count categories, in 2011 *Fig. 2.3*



BACTERIAL COUNT

Quality Grade	Count per ml	% of supplied milk
Premium	Less than 10,000	54.61
Grade A	10,001 – 50,000	44.63
Grade B	over 50,000	0.76
Total		**100.0**

Average somatic cell count, by year *Fig. 2.4*



A firm and constant policy was established by the Israeli Dairy Board in the 90s with the aim of improving milk quality. Economic incentives were set in order to lower the somatic cell count in the milk supplied to the industry and a threshold of price categories was progressively lowered along years. The farmers' response caused the average SCC (annual average for all farms) to decrease from 428,000/ml in 1995 to 219,000/ml in 2011 (data from milk processing plants).

Annual Marketed Milk

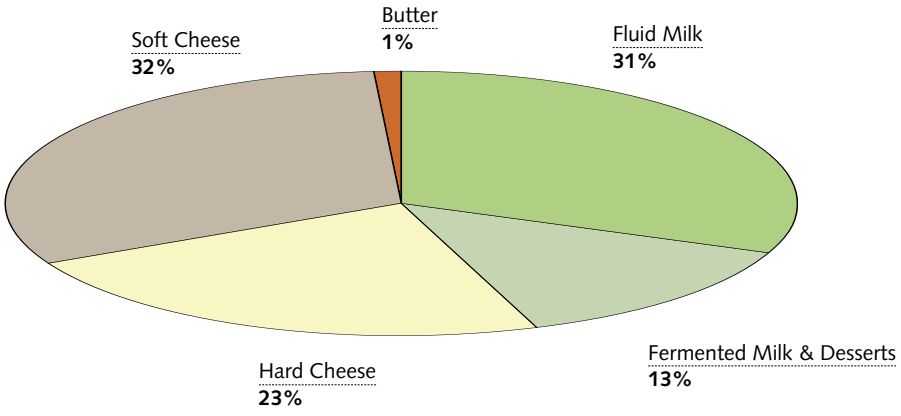
Year	Cow Milk					Sheep & Goat Milk		
	Fluid Milk	Fermented Milk and Desserts	Soft Cheese Ton	Hard Cheese Ton	Butter Ton	Soft Cheese Ton	Hard Cheese Ton	Yoghourt and others, Ton
2002	359,598	148,808	79,252	22,435	5,423	925	1,140	546
2003	359,861	147,307	80,100	22,550	5,443	1,041	1,131	776
2004	370,266	146,820	80,817	22,813	5,713	1,266	1,200	1,139
2005	378,957	151,766	82,359	23,528	5,816	1,273	1,236	1,387
2006	402,276	164,363	87,330	25,210	6,217	1,361	1,173	1,530
2007	405,928	166,610	88,177	26,473	6,175	1,703	1,096	1,782
2008	405,736	170,378	91,535	27,641	5,146	1,665	1,092	2,028
2009	410,595	172,358	92,737	28,344	5,334	1,646	1,062	3,109
2010	422,035	179,708	94,564	29,023	5,016	1,857	1,080	3,867
2011	424,281	180,523	96,144	30,741	5,906	2,061	1,116	4,659

Table 2.5

Distribution of annual marketed milk, by dairy products. (tons)

Fig. 2.5

Distribution of annual marketed milk, by dairy products (% of total, based on skimmed milk equivalent)



The Israel Cattle Breeders Association

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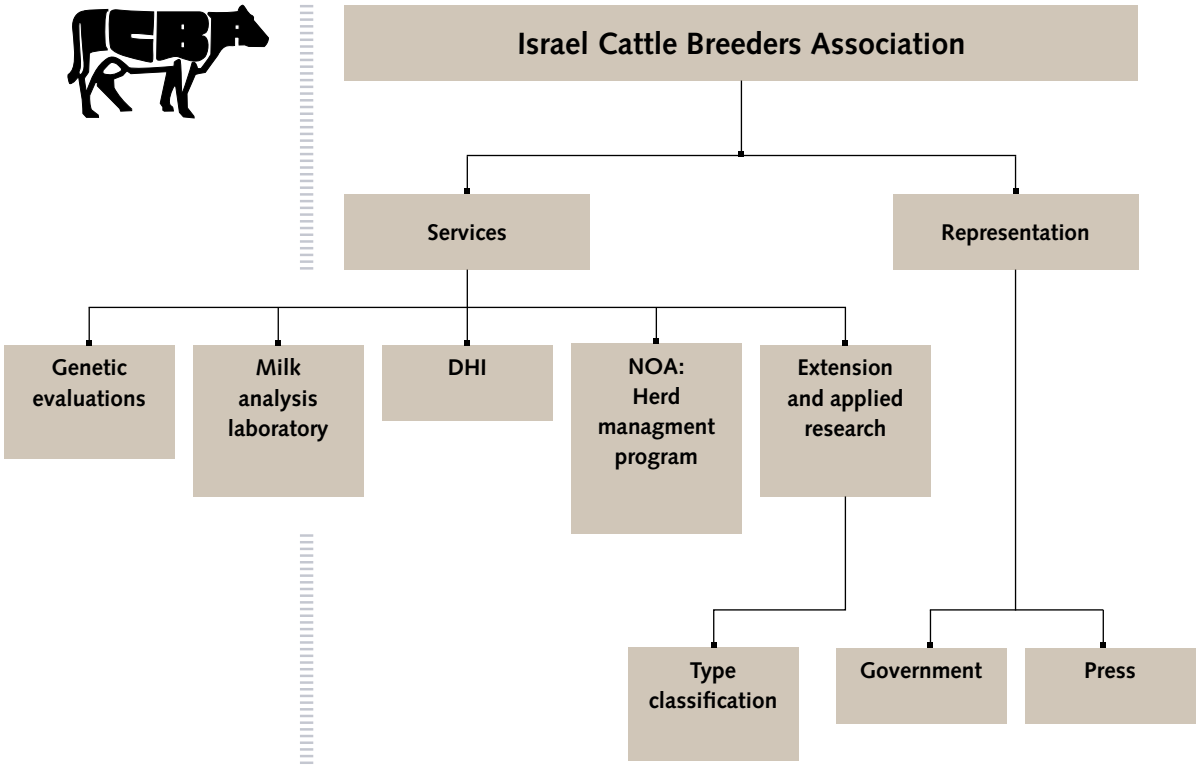


The Israel Cattle Breeders Association represents all dairy cattle farmers in Israel. For the past 85 years the organization has been the sole representative of all milk producers in the country, taking care of all their professional needs and sustaining a vibrant and modern industry.

The organization supplies essential assistance to its members and the satellite organizations connected to the industry. The pivot point of the organization is the National Herdbook, which is one of the most comprehensive herdbooks in the world.

PART 3
The Israeli Herdbook

The ICBA Database

Ephraim Ezra Herdbook Manager, ICBA [hmb-efraim@icba.org.il]

In 2011 the Israeli Dairy Herdbook collected information from 107,117 cows in 670 herds, 90% of the dairy cows in the country. The ICBA database gathers information and merges additional data from other related sources, and aims to integrate all relevant information regarding the Israeli dairy herd. This integrated database allows farmers, extension advisors, veterinarians, the Sion A.I. institute and others, access to controlled and accurate information. Sources and users of this system are listed below:

Input sources

DHI – Milk recording is performed by two methods. In herds with > 150 cows (70% of the cows), recording is done monthly by an ICBA representative (A4 method), who records the relevant information on a hand-held terminal. On the remaining 30% of cows, the farmer manually records milk yield (B4 method) and sends the information to the central computer. For all milk-recorded cows, a monthly sample of milk is sent to the Central Milk Laboratory.
Central milk Laboratory – This laboratory, presently equipped with three FOSS analyze-instruments, analyzes milk components (fat, protein, lactose, SCC, MUN and casein rate) in the DHI milk samples. This laboratory also analyzes milk samples from daily shipments to the dairies. These results are used to determine payment for farmers.

A.I. technicians - Technicians of the Sion A.I. cooperative services inseminate 98% of the cows in Israel. All cows from the herds included in the DHI system have bar-coded insemination cards containing information on the cows and their pedigree. Before selecting a semen straw, the technician checks bloodlines of the cow and candidate sires, using a hand-held terminal. Inseminations are performed only if inbreeding coefficient is under 3.125%. Details of the inseminations are transferred to the ICBA database, via the terminals.

National Service for Udder Health and Milk Quality – The "Udder Health" database is located on the Israel Dairy Board server, and is regularly updated with information on all cows included in the DHI system. Bacterial cultures are

matched to other information of the cow; including days in milk, SCC, milk yields, milking status, and calving dates. Results are sent to the farmer and the veterinarian, and merged into the ICBA database.

Processing plants – Samples of all milk supplied to dairy processing plants in Israel is assayed for fat, protein, lactose, and SCC. For each shipment, the dairies send the farmer a summary including the milk quantity shipped, fat and protein content, and SCC of the milk. This information is transferred to the ICBA database. Once a month the dairies send each farmer and the ICBA a summary of marketed milk volume and payment details.

Interbull –Three times a year a file of genetic evaluations of all recorded bulls in the participating countries is forwarded by Interbull. Information of bulls whose semen has been imported to Israel, but do not have local evaluations, is updated automatically at the central computer, and this information is distributed electronically to the farmers.

Farms – Approximately 85% of the cows registered on the DHI are located at farms that use a management computer program. About 94% of those farms use the "NOA" program that was developed and is maintained by the ICBA. The farmer enters data on calvings, cows that are "dried off", new acquisitions, culled cows, veterinary pregnancy check results, diagnostic codes, veterinary treatments, etc. Once a month all information is transferred to the Herdbook database, and a series of logical checks is applied to correct mistakes. Farmers that do not use a computer management program send paper reports that are manually entered into the central database.

Reports

Genetic evaluations of bulls and cows are computed bi-annually in conjunction with the Department of Ruminant Science of the Institute of Animal Sciences of the Agricultural Research Organization. Results are distributed to the farmers, forwarded to Interbull, and published on the ICBA Hebrew Internet site (www.icba.org.il) that includes an FTP server. Files including data on cow birth, calving and culling dates, milk yields and laboratory results are sent to the "Udder Health" laboratory. Files including data on cow birth, calving and culling dates, results of pregnancy checks and genetic evaluations, including the Interbull evaluations are sent to Sion A.I. Company. Milk recording results, records of the milk shipments to the dairies, results of bacterial analyses from the "Udder Health" laboratories, and genetic evaluations, including the Interbull evaluations, are sent to the dairy farms. Monthly summaries are forwarded to the Ministry of Agriculture extension advisors, feed centers, and regional dairy farmers associations. Files including milk recording results, diagnostic codes, and treatments are sent to the "HaChaklait" veterinary cooperative.

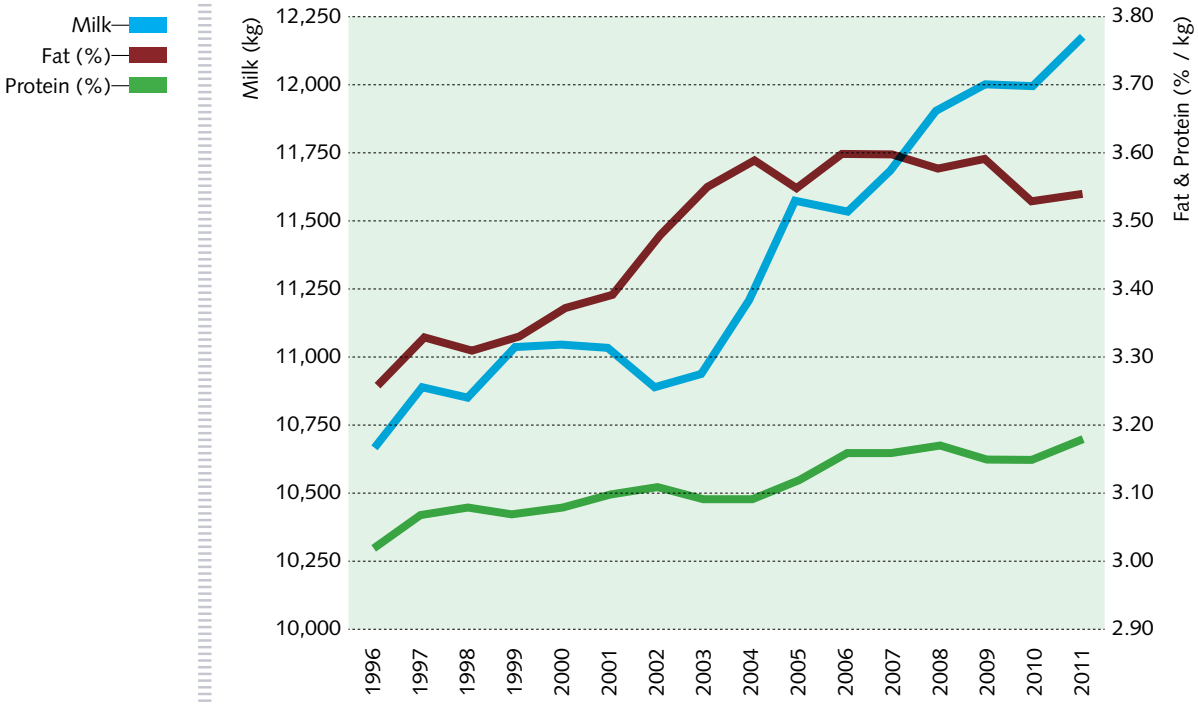
Summary

The Israel Cattle Breeders Association database is the hub for all information on dairy farming in Israel. All data are subject to logical checks, so that the dairy farmer and other end-users receive accurate and reliable information. The intensive computer application in Israeli dairy farming enables all of the entities involved to access the large database at a relatively low cost.

Production averages of Israeli-Holstein cows, by calving year
305-day adjusted lactations (1-5)

Table 3.1 & Fig. 3.1

Calving year	No. of cows	Milk, kg	Fat, %	Protein, %
1996	82,195	10,663	3.26	3.02
1997	82,117	10,885	3.33	3.07
1998	82,672	10,835	3.31	3.08
1999	83,691	10,929	3.32	3.07
2000	81,820	11,048	3.37	3.08
2001	86,152	10,945	3.41	3.10
2002	86,496	10,887	3.48	3.11
2003	84,698	10,935	3.55	3.09
2004	84,069	11,230	3.59	3.09
2005	82,916	11,567	3.55	3.12
2006	80,137	11,574	3.6	3.16
2007	82,683	11,794	3.6	3.16
2008	87,419	11,939	3.58	3.17
2009	83,581	12,033	3.59	3.15
2010	86,234	11,991	3.53	3.15
2011	90,246	12,175	3.54	3.18



Due to a policy which encouraged the production of milk rich in protein and fat there was an increase in their percentages over the years.

The high fat content in raw milk became opposite to the consumers trend, which gives preference to low-fat milk products.

Thus, arose a need to suppress the growth in fat content in the milk. Starting August 2005 a policy of lower payment per fat above a specific level (4.2% in 2010) has been determined.

The average fat content during 2011 was 3.746%/milk lt.

Production averages in 2011, by parity number *Table 3.2*

	1st lactation cows	2nd lactation cows	Adult cows	Total
Complete lactations				
No.	27,312	17,626	27,428	72,366
Milk yield, kg	11,972	13,584	14,027	13,144
ECM* yield, kg	12,158	13,764	14,081	13,279
Fat yield, kg	436.4	489.2	507.4	476.2
Fat, %	3.64	3.60	3.62	3.62
Protein yield, kg	387.3	441.0	446.6	422.9
Protein, %	3.23	3.25	3.18	3.22
Adjusted 305-d lactations				
No.	26,051	16,902	26,248	69,201
305-d adjusted ECM, kg	11,976	12,267	12,233	12,145
Days in milk	366	362	359	362
Milk yield, kg/day in milk	32.7	37.5	39.1	36.3
Feed days	426	424	423	424
ECM yield, kg/cow in herd-day	28.5	32.5	33.3	31.3
Dry period, days	59	61	63	61
Days open	151	148	147	148
Calvings				
Total No. of calvings	34,837	26,318	44,038	105,193
Calves born	35,261	27,602	47,479	110,342
Age at calving, months	24	38	67	46
Normal calvings	30,814	24,542	41,080	96,436
Normal calvings, %	88.5	93.3	93.3	91.7
Premature calvings	763	580	985	2,328
Premature calvings, %	2.2	2.2	2.2	2.2
Abortions, %	11.7	11.0	10.9	11.2
Stillborn calves, %	7.5	6.6	7.5	7.3

* ECM = Economic Corrected Milk, according to the formula for milk payment :
up to 4.07% Milk Fat: 0.10 * kg Milk + 9.48 * kg Fat + 17.61 * kg Protein

20 cooperative herds with highest average annual milk yield per cow (3x milkings) in 2011

Table 3.3

No.	Herd	ECM kg	Milk kg	Fat %	Protein %	F+P kg	SCC x1000	No. of cows in herd
1	Sa'ad	14,531	14,199	3.53	3.34	976	214	315
2	Nahal Oz	13,994	13,928	3.57	3.21	945	153	333
3	Gevim	13,950	14,055	3.36	3.26	930	178	307
4	Urim	13,911	13,989	3.54	3.17	939	130	377
5	Carmiya	13,859	13,412	3.76	3.28	943	243	392
6	Revivim	13,855	13,873	3.50	3.22	932	174	1,006
7	Ein Hashelosha	13,634	13,572	3.56	3.22	920	146	319
8	Alumim	13,619	13,214	3.69	3.30	923	199	348
9	Tse'elim	13,585	13,228	3.57	3.34	914	168	301
10	Hanaton	13,574	13,294	3.69	3.24	922	202	535
11	Mefalsim	13,567	13,446	3.56	3.24	915	204	322
12	Lavi	13,485	13,029	3.82	3.25	921	233	275
13	Galil Ma'aravi	13,482	13,336	3.54	3.27	908	177	819
14	Yavne	13,448	13,055	3.69	3.29	912	127	390
15	Giv'at Hayim Ihud	13,397	12,782	3.80	3.34	912	196	342
16	Ayelet Hashahar	13,305	13,237	3.59	3.21	900	205	274
17	Habonim	13,281	13,070	3.68	3.22	902	163	263
18	Or haNer	13,261	13,245	3.57	3.19	896	256	295
19	Carmel Ma'on	13,229	12,864	3.66	3.30	895	228	477
20	Ma'ale Hahamisha	13,089	12,969	3.62	3.22	886	169	279

Table 3.4

20 Family herds with highest average annual milk yield per cow (2x + 3x milkings) in 2011

No.	Village	Herd	ECM kg	Milk kg	Fat %	Protein %	F+P kg	SCC x1000	No. of cows in herd
1	Patish	Kadoori Farm	13,673	13,084	3.90	3.27	937	191	49
2	Nir Banim	Strashnov Farm	13,534	13,274	3.70	3.23	920	274	101
3	Kefar Vitkin	Haruvi Farm	13,467	13,380	3.59	3.22	910	223	88
4	Avnei Eitan	Oz Farm	13,465	13,037	3.80	3.25	919	225	69
5	Merhavia, Moshav	Novitz Farm	13,401	13,310	3.68	3.17	911	144	61
6	Nahalal	Gabay Farm	13,300	12,922	3.55	3.37	893	230	79
7	Kefar Vitkin	Winter Farm	13,275	13,141	3.61	3.22	898	186	111
8	Bet Hilqiya	Dubdevani Farm	13,274	13,271	3.54	3.20	895	164	192
9	Bet She'arim	Marmor Farm	13,214	12,402	3.74	3.47	894	282	63
10	Eli'ad	Pestiger Farm	13,028	12,864	3.68	3.20	885	179	43
11	Shfeyia Ag. School	Shfeyia Ag. School	13,006	12,845	3.64	3.22	881	210	80
12	Hayogev	Koren Farm	12,918	12,224	3.84	3.37	881	286	62
13	Amatz	Reuven Farm	12,903	12,773	3.64	3.21	875	222	102
14	Hayogev	Haidman Farm	12,895	12,674	3.69	3.22	876	157	57
15	Qidmat Tsevi	Kandelik Farm	12,884	12,294	3.87	3.30	881	180	32
16	Nir Israel	Fodor Farm	12,876	12,721	3.57	3.26	869	178	238
17	Be'er Tuvia	Avniel Farm	12,855	12,754	3.55	3.24	867	223	173
18	Kefar Vitkin	Boltiansky Farm	12,852	13,119	3.40	3.16	861	139	153
19	Nir Ha'emeq	Nir Ha'emeq Ag. School	12,846	13,003	3.54	3.14	868	143	73
20	Giv'at Yoav	Vaknin Farm	12,803	12,471	3.78	3.22	874	167	56

20 cows with highest adjusted ECM yield in 2011 *Table 3.5*

No.	Herd	Cow No.	Sire	Lact. No.	Milk kg	Fat %	Protein %	ECM kg
1	Sa'ad	5233	Torpatz	4	18,775	3.48	3.11	18,351
2	Nahal Oz	5351	Badon	2	18,321	3.59	3.17	18,298
3	I.L.Shani Farm	6731	Asa	4	19,519	3.21	3.03	18,289
4	Urim	5414	Scorer	3	18,560	3.44	3.13	18,133
5	Shrizada Bros. Farm	147	Tenet	1	16,828	3.91	3.39	17,962
6	Gevim	5080	Badon	2	17,276	3.47	3.46	17,936
7	Urim	5609	Badon	2	16,913	3.88	3.35	17,899
8	Sa'ad	5549	Luf	2	16,541	3.81	3.52	17,883
9	Galil Ma'aravi	8104	Jonas	2	18,231	3.56	3.08	17,861
10	Sa'ad	5612	Badon	1	18,650	3.13	3.18	17,843
11	Or-haNer	701	Cigar	2	17,038	3.84	3.30	17,822
12	Sa'ad	5247	Marseye	3	17,549	3.69	3.21	17,801
13	Galil Ma'aravi	7213	Torpedo	4	14,743	5.03	3.58	17,799
14	Baranawsky Bros. Farm	1006	Scorer	6	18,179	3.63	3.04	17,798
15	I.L.Shani Farm	100	Torpedo	3	16,384	4.52	3.16	17,772
16	Galil Ma'aravi	8656	Piton	1	18,070	3.63	3.04	17,707
17	Sa'ad	5734	Sadach	1	17,739	3.31	3.31	17,679
18	Or haNer	745	Rotev	2	17,296	3.84	3.16	17,668
19	Ein haShelosha	4314	Marseye	3	16,873	3.79	3.33	17,657
20	Yad Hail	8718	Koren	2	16,957	3.84	3.27	17,633

20 cows with highest lifetime yield, producing in 2011 *Table 3.6*

No.	Herd	Cow No.	Sire	Lact. No.	Days in milk	Milk kg	Average milk yield kg/day	Fat %	Protein %
1	Heftzibah	5700	Scorer	10	3,959	173,624	43.9	3.12	2.79
2	Yavneh	504	Boteach	14	4,570	172,444	37.7	3.60	3.23
3	Refet HaNegev	2066	Scorer	10	3,935	162,436	41.3	3.49	2.98
4	Sa'ad	4560	Dalia	7	3,255	158,582	48.7	3.28	3.16
5	Refet Yehuda	5343	Teva	10	3,817	158,543	41.5	3.28	2.85
6	Hazorea	677	Tamim	8	4,624	158,031	34.2	3.01	2.76
7	Be-Rishtenu	5814	Scorer	10	3,529	157,908	44.8	3.15	2.69
8	Gal'on	4239	Sinbad	11	4,155	155,904	37.5	3.64	2.98
9	Beit Yatir	74392	Scorp	11	3,493	155,729	44.6	3.29	3.00
10	Rabinovich Farm	501	Scorer	11	4,015	154,937	38.6	3.32	2.84
11	H.S.G. Farm	195	Scorer	12	3,969	154,526	38.9	3.53	2.96
12	Ein Gev	2435	Sorbonne	10	3,606	153,817	42.7	3.08	3.02
13	Ein haShofet	3970	Royal	10	3,219	152,177	47.3	3.52	2.95
14	Degania B	7470	Scorer	13	3,680	151,066	41.1	3.59	3.07
15	Tefen-Tuval Farm	1071	Scorer	11	3,512	150,613	42.9	3.51	3.02
16	Carmiya	5505	Scorer	11	3,411	150,345	44.1	3.63	3.14
17	Carmiya	5495	Scorp	9	3,578	150,307	42.0	3.86	3.24
18	Sofer Farm	942	Bul	8	3,594	148,836	41.4	3.85	3.24
19	Givat Hayim Meuchad	1613	Scorer	11	3,726	148,120	39.8	3.38	3.08
20	Ha'Shechafim Farm	279	Gamfi	8	3,595	147,386	41.0	3.44	2.93


רפת נוביץ
משקיה
משנת 1923

NOA – The Israeli Dairy Herd Management Program

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NOA is a comprehensive program for dairy herd management which was developed by the Israeli Cattle Breeders Association (ICBA). **NOA** addresses all aspects of dairy farming. **NOA** has been designed to give the herd manager up-dated information regarding all aspects of dairy activity.

Major features of NOA

- **Herd management** – this module allow the user to record all reproduction events of the cow. New acquisition of animals to the farm, culling, dry off, calving, BCS, group change. All Veterinary data including automatic preparation of Vet check list and input of diagnosis, treatments and drugs. Noa fully support synchronization and vaccination protocols.
- **Feeding** – Linear programming and ration formulation, feed production and TMR planning, inventory management and reports. Communication with feeding controllers. Complete tracking and monitoring of feed consumption. Dry matter intake reports at different levels. Milk over feed reports.
- **Milk production** – Recording of milk marketing, milk recording (milk test) and summary reports including lactation summaries. Communication with different brands and types of commercial milk-meters (on-line milk data).
- **Reproduction** – Almost all the Herdbook reproduction KPI's are available in **NOA**. Simple predefined reports give a reliable updated picture of the reproduction status and trends to the dairy farmer. Numerous reproduction indicators are calculated: days open, pregnancy rate, heat detection rate, conception rate, waste days, service per conception etc.
- **Genetic management** – Graphical presentation of cows and bulls pedigree data. Mating program is implemented to optimize the breeding value progress of the herd and to minimize the risk of inbreeding. Simple tools to implement breeding program according to particular herd goals.
- **Quota production planning** – Special interactive module for better managing of the milk quota production along the year. Simulation of the herd milk production on a monthly level, with a sophisticated prediction algorithm. The prediction is based on the herd performance in the last 2 years.
- **Lactation curve analysis** – Special report for analyzing the periodic lactation curve of the entire milking cows. Seasonal production is also analyzed and the effectiveness of the cooling system can be evaluated by this report. Graphic presentation of the lactation curve is provided for each lactation number separately. Production level ratio of first lactation cows to second and third lactation cows is calculated.

- **Economic module** – New module that was released in the 2008 version gives the farmer the opportunity to record all the financial transactions including delivery notes and invoices. Dynamic profit and loss report can be easily derived. This module gives the dairy farmer an efficient tool for better controlling current management.
- **Additional features** – Shared database (network), powerful report generator, PDA application that includes all cows' data.
- **iNoa** – new application developed specially for iPod, iPhone and iPad. The farmer can view all cows data in the field.

NOA coordinates import and export of files to the national Herdbook database, dairy processing plants, central milk laboratory, livestock insurance companies, Udder Health laboratory, feed mills, feed centers and others.
NOA uses a Windows user interface and is user-friendly, despite its complexity and sophistication. The program was developed by top Israeli dairy herd professionals in order to meet the needs of both small and large dairy enterprises.
NOA was introduced in Israel in April, 2000. Today, nearly 700 dairy farms and feed centers use the program, including all dairy farms with over 250 dairy cows in Israel.
Each month new dairy farms install the program and the total number of cows which are managed under NOA software in Israel is nearly 90,000.
NOA interfaces with all aspects of dairy production control, including milking robots and feeding controllers.
For the first time, comprehensive dairy farm management is possible with a single integrative and user-friendly program.
The program is maintained by an ICBA professional team that includes experienced field advisers, phone support for software users and programmers. Communication between the dairy farm computer and the national Herdbook database is carried out via an Internet website maintained by ICBA. Numerous dairy farmers and entities in the dairy industry are connected via the "Milk net", which facilitates two-way interactive exchanges and provides E-mail, a bulletin board and other services.
International cooperation – ICBA cooperate with DeLaval Company globally. In the coming year's dairy farmers around the world will be able to utilize many of the features of NOA system.

The Israeli Selection Index

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The Israeli breeding program is monitored by the Israeli Breeding and Herdbook Committee, which includes representatives of the Sion A.I. Company, the Israeli Cattle Breeders Association, and scientists of the Department of Ruminant Science of the Institute of Animal Sciences of the Agricultural Research Organization.

PD11 – THE ISRAELI BREEDING INDEX

Index coefficients for milk, fat, and protein were computed to maximize expected farmer profit. Profit was computed as income, less cost of feed required to produce the three milk components, transportation costs for fluid milk, and the fixed costs per cow, which were set so that the net profit would equal zero. The index coefficients were computed by differentiating the profit equation with respect to each component. The index coefficients were normalized so that one standard kg of milk with 3.574% fat and 3.186% protein, would have a unit value. The index coefficient for somatic cell score (SCS) was computed so that expected changes for SCS would be close to zero. The index coefficients for daughters' fertility, herdlife, persistency, dystocia, and calf mortality were computed to account for the economic value of those traits relative to milk production. The current Index PD11 was updated in January 2011, to adjust for the increase in the price for milk fat in the world market. PD11is as follows:

PD11 = 7.9 (kg fat) + 23.7 (kg protein) – 300 (SCS) + 26 (% daughters' fertility) + 0.6 (days herdlife) + 10% (% persistency) – 3 (% dystocia) – 6 (% calf mortality)

Expected genetic gains after ten years of selection using this index are: 509 kg milk, 20.0 kg fat, 17.7 kg protein, - 0.11 SCS, 1.2% daughters' fertility, 107 days herdlife, 1.7% persistency, -0.83% dystocia, and -0.67% calf mortality.

Genetic evaluations for milk, fat and protein production, SCS, daughters' fertility and persistency are calculated by the multitrait animal model, using parities 1 to 5, with each parity considered as a separate trait. Herdlife is calculated by a single trait animal model. "Persistency" is persistency of milk production. Dystocia and calf mortality refer to the effect of the cow calving, and include only first parity records. Dystocia and calf mortality are calculated by sire and maternal grandsire models. The base for all genetic evaluations is the mean breeding value for cows born in 2005.

Israeli Breeding in 2011

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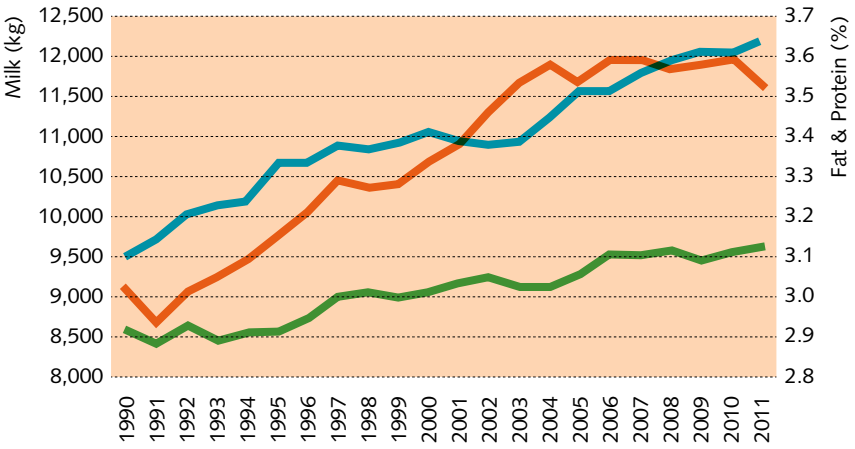
The Israeli dairy cow yields more milk and milk components than any other dairy cow in the world. This is complemented by strong sub-characterisitcs that enable it to be an active part of the herd for an extensive period of time. The success of the Israeli dairy farm does not stem from comfortable climate conditions, fertile soil, abundance or high quality water sources. Success is primarily due to the Israeli dairy farmer – educated, curious and open to changes and to the application of modern technologies. A central support system for managing the modern dairy farm, combined with genetic breeding and the professional application of the data, have led to the high achievements of the Israeli dairy farm.

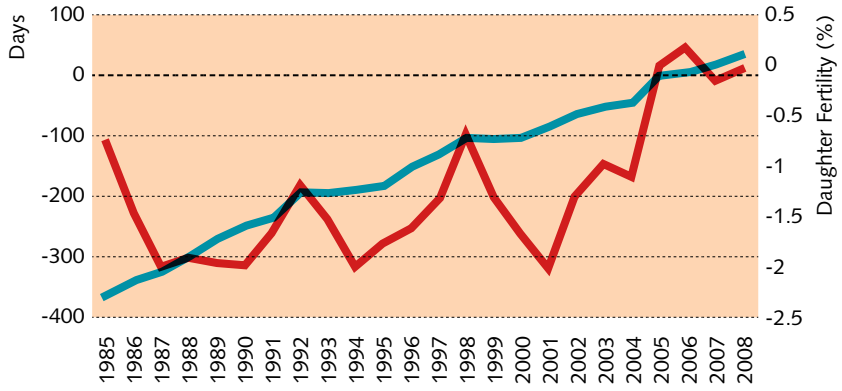
Heat stress during the Israeli hot season has a highly negative effect on dairy production. Great efforts have been made to install and implement technologies with the aim of reducing heat stress. Dairy farms that implement appropriate methods for cooling the herd have reached milk-production rates during the summer months that exceed winter levels.

The three pillars of the central system – the insemination, the veterinarian and the input and analysis of the data by the Herdbook – have led to the ability to centrally control all of the data in an effective and precise manner. The computerized flow of data from the farm to the data center, and the direct, almost immediate output back to

Graph 1
Average breeding value of cows for Milk Production and for Fat and Protein percent



Graph 2
Average breeding value of cows for Daughter Fertility and Longevity



the individual dairy farmer, is the secret to success – for reliability and the continued development of the dairy farm. The ability to maintain control over genetic data and lineage records for each cow and bull in the herd led to the development of the mating program. Access to this program has resulted in a very limited percentage of inbreeding. In 2008, the breeding system began to utilize the technique of genomic scanning, aimed towards decreasing the array of bulls while making strides towards additional genetic progress.

Leading Bulls According to the Number of Inseminations

Among the thirteen leading bulls with the highest number of inseminations were six bulls from Manfred Justice bloodline. Most of them were used especially for heifers. About 77% of these bulls have sires from USA and Europe. The number of inseminations per bull is program by national mating list. This fact is unique to the Israeli system and is the result of the generalized use of a mating program (a module of "NOA", developed by ICBA) which is used by most farmers. Dairy farmers select the bulls by themselves, while taking the mating results into consideration.

Table 1
Bulls that were most largely used in 2011

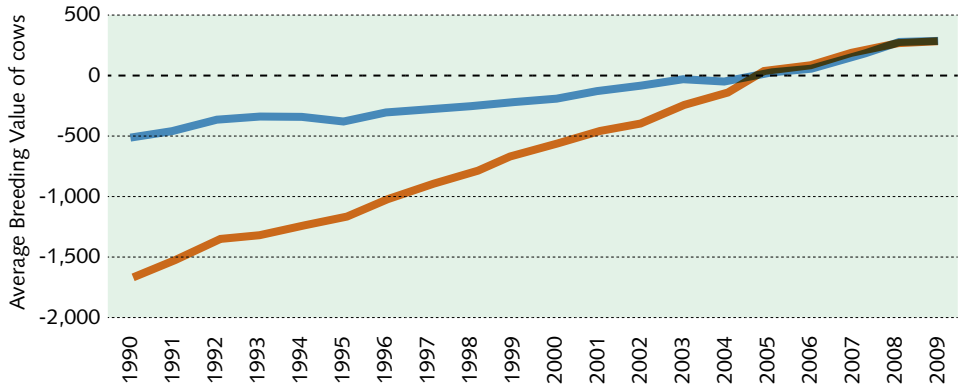
Bull Name	Bull Number	Sires	Inseminations
GUTYE	7518	MANFRED JUSTICE x HARRY JUSTICExHARRY	24,847
SILVAN	7365	WONDERBOY x DALIA	22,275
JEYJEY	7424	MANFRED JUSTICE x GEOFFRY	21,352
JERMIN	7396	MANFRED JUSTICE x MOACH	20,122
JAKI	7397	MANFRED JUSTICE x GUPI	19,928
DIGI	7334	DANDAN x PATSIL	19,044
JEROM	7425	MANFRED JUSTICE x MASBO	18,917
MARAKANA	7437	MARSEYE x COMMA	16,260
JHEY	7400	MANFRED JUSTICE x GOOPI	13,647
JENTILE	7395	JOCKO BESN x PATSIL	12,818
PATRUSHA	7483	PATUR x AVSHA	10,738
DANON	7453	DANDAN x BADON	9,712
STED	7279	SUFON x TORPEDO	9,629


7261

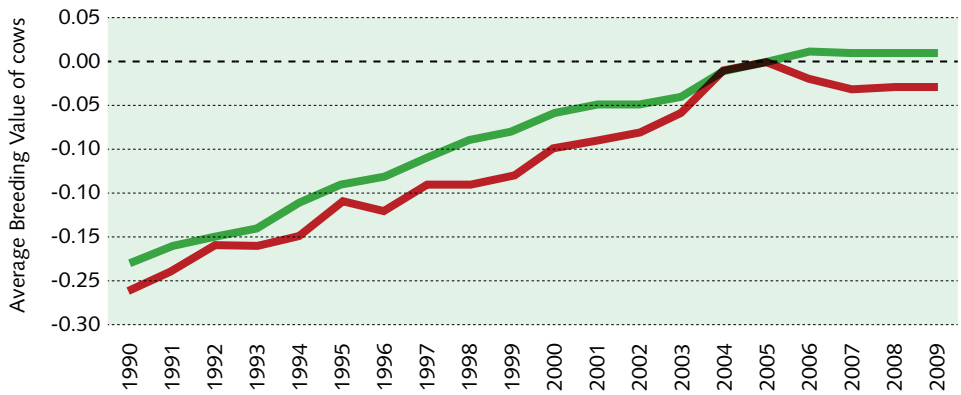
Birth Year	Milk kg	Fat kg	Fat %	Protein kg	Protein %	SCS	Daughters' Fertility	Productive Longevity	Calf Mortality	Calving diff.	Lactation Persist. %	PD11
1990	-533	-47.93	-0.26	-42.76	-0.24	0.22	-2.04	-247.4	0	0	-2.44	-1683
1991	-471	-42.78	-0.23	-38.76	-0.22	0.25	-1.72	-235	0.76	0.8	-2.16	-1544
1992	-390	-37.87	-0.21	-34.53	-0.2	0.27	-1.24	-193.3	1.41	1.54	-1.96	-1380
1993	-365	-36.97	-0.21	-32.68	-0.19	0.35	-1.55	-195.1	1.34	1.31	-1.27	-1354
1994	-367	-35.59	-0.2	-29.81	-0.16	0.33	-2.01	-188.9	1.59	1.49	-1.07	-1276
1995	-401	-32.7	-0.16	-28.55	-0.14	0.29	-1.78	-184	1.32	1.25	-1.29	-1203
1996	-328	-30.44	-0.16	-25.24	-0.13	0.23	-1.63	-152.1	1.35	1.3	-0.81	-1062
1997	-303	-26.54	-0.14	-22.58	-0.12	0.19	-1.34	-131.9	1.11	1.03	-1.02	-936
1998	-279	-26.02	-0.14	-19.8	-0.1	0.17	-0.69	-106	1.2	1.1	-0.7	-823
1999	-243	-23.09	-0.13	-17.19	-0.08	0.11	-1.33	-107	1.1	1.41	-0.65	-740
2000	-213	-18.84	-0.1	-13.57	-0.06	0.11	-1.67	-104.9	1.05	1.46	-0.45	-625
2001	-140	-15.35	-0.09	-10.24	-0.05	0.13	-1.95	-86	0.82	1.46	0.05	-514
2002	-96	-12.94	-0.08	-8.91	-0.05	0.13	-1.32	-66.7	0.48	1.76	0	-434
2003	-43	-8.63	-0.06	-5.74	-0.04	0.1	-0.96	-51.8	0.18	1.82	-0.11	-297
2004	-66	-3.63	-0.01	-3.49	-0.01	0.05	-1.07	-44.9	0	2.01	-0.13	-188
2005	0	0	0	0	0	0	0	0	0.04	2.61	0	-8
2006	15	-2.55	-0.02	1.22	0.01	-0.02	0.17	8.6	0.15	2.74	-0.11	14
2007	152	1.2	-0.03	6.04	0.01	0.02	-0.19	16.8	0.71	3.78	-0.03	136
2008	254	4.22	-0.04	8.54	0.01	0.03	-0.05	33.4	0.6	3.88	0.26	232
2009	287	4.89	-0.04	10.1	0.01	0.01	-0.14	41.3	0.4	3.57	0.06	283

Average Breeding Value of cows, by birth year – Genetic Trends *Table 3.7*

Average Breeding Value of cows for PD07 and Milk, by birth year – Genetic Trends *Fig. 3.2*



Average Breeding Value of cows for Fat and Protein percentages, by birth year – Genetic Trends *Fig. 3.3*



Birth year	Number of bulls	Milk kg	Fat kg	Fat %	Protein kg	Protein %	SCS	Daughters' Fertility	Productive Longevity	PD11
1987	38	-380	-24.1	-0.09	-19.8	-0.07	0.21	-0.88	-156	-861
1988	49	-304	-20.0	-0.08	-19.1	-0.09	0.10	-1.28	-140	-784
1989	33	-230	-17.3	-0.08	-18.1	-0.10	0.10	-0.71	-121	-715
1990	32	-264	-18.4	-0.08	-18.3	-0.09	0.09	-0.17	-128	-719
1991	41	-140	-16.5	-0.10	-12.5	-0.07	0.20	-0.94	-115	-604
1992	42	-304	-15.3	-0.04	-13.6	-0.04	0.19	-1.49	-126	-648
1993	53	-337	-17.6	-0.05	-15.0	-0.04	0.18	-0.70	-102	-657
1994	46	-230	-14.9	-0.06	-11.3	-0.04	0.14	-1.91	-114	-577
1995	38	-139	-6.6	-0.01	-7.0	-0.02	0.15	-1.54	-90	-382
1996	53	-247	-10.4	-0.01	-9.1	-0.01	0.19	-1.93	-103	-491
1997	31	-220	-8.4	0.00	-5.8	0.01	0.04	-0.64	-68	-293
1998	58	-47	-3.5	-0.01	-0.6	0.01	0.10	-1.69	-70	-175
1999	22	-111	-9.9	-0.05	-4.0	0.00	0.13	-1.06	-59	-295
2000	28	-147	-4.4	0.01	-2.2	0.02	0.03	-0.85	-64	-181
2001	44	56	-3.8	-0.05	0.2	-0.01	0.19	-0.98	-56	-156
2002	54	26	0.4	0.00	1.0	0.00	0.06	-1.02	-57	-76
2003	45	-39	2.7	0.04	1.7	0.03	-0.05	-1.04	-52	-11
2004	52	-82	0.7	0.03	2.7	0.05	-0.07	-0.37	-27	41
2005	47	61	0.3	-0.01	4.3	0.02	0.02	0.33	13	99
2006	50	214	3.8	-0.03	7.2	0.00	-0.04	-0.86	20	180
2007	20	202	4.0	-0.03	8.0	0.02	0.01	-0.47	20	207

Average Breeding Value of bulls, by birth year *Table 3.8*

Bulls that performed largest number of inseminations (all years)

Table 3.9

Bull No.	Bull name	Sire	No. of inseminations
3274	Scorer	Thonyma Secret	199,298
829	Gyus	Oren	198,997
2132	Gaby	Arlinda Jet Stream	181,527
783	Pirchach	Hason	160,375
3651	Avsha	Sea-Mist Bell Extra	150,531
3212	Sinbad	Sunran Sundacer	145,711
2124	Shoeg	Shofet	128,094
787	Amir	Icar	119,631
3258	Shenef	Pony	115,990
2357	Flor	E-Z-Acres Starlite Bachelor	114,112
7053	Aise	Avsha	112,496
3241	Teva	Kingstead Valiant Tab	111,922
3089	Pitspon	Gyus	111,182
3123	Tamim	Crescent Mead Chief Stewart	110,645
3811	Sofon	Sccorer	110,274
3080	Pirate	Sabal	110,058
2122	Shats	Shofet	110,046
3304	Goopi	Goliat	108,771
2176	Genosar	Gyus	103,848
2278	Mefi	Marshfield Elevation Tony	98,673

Fertility Statistics

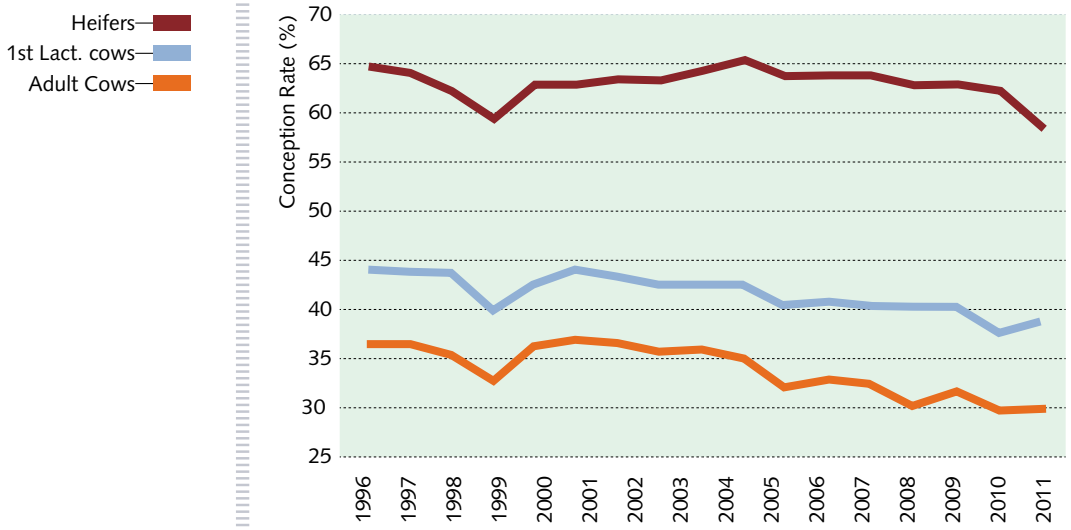
Information on insemination and pregnancy checks enable a thorough analysis of fertility performance at national and herd level. Reports are issued to farmers and are the basis for practical decisions regarding fertility management.
Data is presented as average results by parity categories.

Average Conception Rate at 1st service, for Heifers, 1st Lact. cows and Adult cows (all herds), by years

Table 3.10 & Fig. 3.4

Conception Rate at 1st service (%)

Year	Heifers	1st Lact. cows	Adult cows
1996	64.6	44.2	36.9
1997	62.7	43.9	35.7
1998	59.6	40.4	33.2
1999	63.3	43.1	36.7
2000	63.2	44.5	37.4
2001	63.9	44.0	37.1
2002	63.8	43.0	36.1
2003	64.6	43.0	36.4
2004	65.9	43.0	35.6
2005	64.2	40.7	32.6
2006	64.3	41.2	33.3
2007	64.3	40.9	33.0
2008	63.1	40.7	30.5
2009	63.1	40.6	32.0
2010	62.3	37.7	29.8
2011	58.4	38.8	30.0



Fertility summary for heifers, all herds (period: 11/10-10/11) *Table 3.11*

Number of heifers and Conception Rate, by age at 1st service

	N	% of total	C.R. (%)
< 13 months	10,447	28.0	58.5
14-15 months	22,721	60.9	58.5
16-17 months	3,694	9.9	57.7
18-23 months	448	1.2	54.4
Total	37,309	100	58.4

Number of heifers and Conception Rate, by insemination number

	N	% of total	C.R. (%)
First inseminations	37,309	53.9	58.4
Second inseminations	15,985	23.1	52.1
Third inseminations	7,684	11.1	47.2
Fourth + more inseminations	8,211	11.9	33.4
Total of inseminations	69,189	100	52.8

Heat detection

Distribution of cycles length (days):			
5-17	1,136	4.7	
18-25	16,733	69.2	
26-35	1,531	6.3	
36-60	4,769	19.7	
Total of natural cycles	24,169	88.8	
Induced cycles	3,052	11.2	
Average days between inseminations	26		
Rejections by inseminator		17.9	
Preg.checks with negative results		13.0	

Distribution of heifers by age at pregnancy onset

<13 months	6,457	18.0	
14-15 months	19,481	54.2	
16-17 months	7,195	20.0	
18-19 months	2,089	5.8	
20-21 months	722	2.0	
Average age at effective insem. (mo)	15.4		
Average age at 1st. Insem. (mo)	14.7		

Fertility summary for first-calvers, all herds (period: 11/10-10/11)

Table 3.12

Number of first-calvers and Conception Rate, by days post-partum at 1st service

	N	% of total	C.R. (%)
< 70 days	4,098	13.0	37.5
71 - 100 days	18,534	58.8	40.9
101 - 130 days	7,534	23.9	36.8
131 - 150 days	1,355	4.3	32.2
Total	31,521	100.0	38.8

Number of first-calvers and Conception Rate, by insemination number

	N	% of total	C.R. (%)
First inseminations	31,521	33.1	38.8
Second inseminations	20,104	21.1	34.6
Third inseminations	13,734	14.4	32.1
Fourth + more inseminations	29,897	31.4	27.5
Total of inseminations	95,256	100.0	33.4

Heat detection

Distribution of cycles length (days):			
5-17	2,675	47.4	
18-25	30,938	548.7	
26-35	5,098	90.4	
36-60	9,435	167.3	
Total of natural cycles	48,146	89.5	
Induced cycles	5,638	10.5	
Average days between inseminations	27		
Rejections by inseminator		12.7	
Preg.checks with negative results		26.6	

Distribution of first-calvers, by days post-partum at effective insemination

< 75 days	2,493	8.9	
76 - 110 days	9,846	35.0	
111 - 150 days	6,729	23.9	
151 - 180 days	3,317	11.8	
181 - 270 days	5,757	20.5	
Average Open days	133		
Average Rest days	91		

Fertility summary for adult cows, all herds (period: 11/10-10/11) *Table 3.13*

Number of Cows and Conception Rate, by days post-partum at 1st service

	N	% of total	C.R. (%)
< 50 days	468	0.8	17.7
51 - 80 days	26,150	44.7	29.1
81 - 110 days	25,272	43.2	31.0
111 - 150 days	6,611	11.3	30.4
Total	58,501	100.0	30.0

Number of Cows and Conception Rate, by insemination number

	N	% of total	C.R. (%)
First inseminations	58,501	31.9	30.0
Second inseminations	41,475	22.6	31.9
Third inseminations	28,354	15.5	31.5
Fourth + more inseminations	54,942	30.0	26.9
Total of inseminations	183,272	100.0	29.7

Heat detection

Distribution of cycles length (days):			
5-17	7,037	6.6	
18-25	56,060	52.5	
26-35	12,965	12.1	
36-60	18,461	17.3	
Total of natural cycles	94,523	88.6	
Induced cycles	12,211	11.4	
Average days between inseminations	27		
Rejections by inseminator		9.2	
Preg.checks with negative results		31.6	

Distribution of first-calvers, by days post-partum at effective insemination

< 75 days	5,328	10.8	
76 - 110 days	15,576	31.7	
111 - 150 days	12,264	25.0	
151-180 days	6,207	12.6	
181-270 days	9,761	19.9	
Average Open days	133		
Average Rest days	86		

Hachaklait – Mutual Society for Clinical Veterinary Services

Written by Dr. Benny Sharir – Chief Veterinarian

The Beginning

Hachaklait was established back in 1919 by a handful of enthusiastic pioneer farmers. The vision they had was to combine a mutual insurance policy with comprehensive veterinary medicine. The initial motive was to protect valuable cattle, which were imported to a hot climate land, burdened with disease. Hachaklait was founded as a cooperative, which was owned and managed by the farmers for the benefit of the farmers. The veterinarians were contracted as the employees of the cooperative. From its small beginning with a few farms around the Sea of Galilee, Hachaklait grew hand in hand with the Israeli Food Animal Industry to encompass the entire country.

Our Mission

Today, above 90 years later, Hachaklait is still a strong and thriving unique organization both in size and philosophy, in the veterinary world. Hachaklait is a farmer cooperative, still owned and managed by the farmers for their benefit. Our basic goal is to give our clients the best veterinary service at a reasonable cost. Each farm pays a yearly fixed rate per animal in order to cover all routine and emergency medical needs and is entitled to purchase one year prepaid contract of laboratory evaluation. Thus, Hachaklait has a long term and stable contract with the farm, and is committed to the well being of the animals, and the sound economy of the farm.

Our Services

Hachaklait believes in intensive proactive service at all levels: sick individual cows, herd health, prevention and control of infectious and production diseases, as well as food safety and animal welfare. Our vets visit each farm two to three times a week, and each cow receives several routine visits per lactation, to make sure she is producing at maximal efficiency. All cows are checked after calving for both clinical and sub clinical diseases, for reproductive status and before drying off. All the data from each individual cow is collected at the farm and processed by Hachaklait. Hachaklait has its own clinical research unit to perform clinical field trials in collaboration with local as well as international companies and research bodies.

Clientele

Hachaklait serves more than 800 dairy farms with over 110,000 milking cows, which comprises about 85% of the dairy cattle population in Israel. These are made up of 163 large Kibbutz herds and 650 smaller Moshav (family) dairy farms. There are some 60 beef herds with 20,000 dams and some 300 feedlots with 30,000 steers, as well as 200 sheep and goat farms.

Personnel

Thirty-six of Hachaklait vets serve as district practitioners throughout Israel.

Ten junior vets operate as relief (locum) for the district vets and for special tasks. Some of our vets operate part time as consultants for: disease eradication and control (MAP, BVD, and BLV), clinical nutrition, dermatology, parasitology, lameness, young stock, ultrasonography, beef, feedlot, animal welfare, robotic milking and small ruminants. Hachaklait encourages the vets' to acquire PhD, VMPH degrees funded by the Hachaklait as well as carry out mandatory monthly continuing education seminars. Currently, five of our vets are already specialists in Bovine Health Management. In addition, fourteen vets are at various stages of this four year program.

Department of Herd Health

Hachaklait Department of Herd Health issues monthly and annual herd reports for each computer- managed farm, monitoring and analyzing its production, reproduction and economical performance. Our herd health experts meet with the manager and staff of every farm to present and discuss their findings and advise on future improvements.

Clinical Research Unit

Hachaklait Clinical Research Unit functions as a CRO, GCP for national and international companies. Additionally, the unit provides epidemiological and statistical support to Hachaklait veterinarians involved in research projects.

Pharmaceuticals

Since almost all veterinary drugs in Israel are imported, Hachaklait handles registration, import and distribution of a wide range of drugs, vaccinations and equipment. In order to perform this task, Hachaklait operates a large and modern, GMP central drug warehouse. Being the major drug buyer in the country and one of the largest veterinary groups in the world, we can offer our clients drugs at very competitive wholesale prices. In addition, drugs are sold without any surcharge. We advocate low and rational drug use and prevention of drug residues from entering into the food chain. Hachaklait strongly believes that it's the intensive farm visits routine and herd-monitoring activities that are the main cause of reduced drug use by our clients', low drug costs and increase in product safety.

Our Affiliations

Hachaklait Head Office and its Chief Vet keep close ties and work relations with the following bodies: The Milk Board, the Israeli Cattle Breeders Association, the National Herd Book, Sion (the Israeli A.I. company), the Milk Quality and Udder Health Lab, The National Veterinary Services and the Kimron Veterinary Institute, the Koret Vet School of the Hebrew University, the Ministry of Agriculture Extension Service and some other international organizations including the WAB, IDF.

Hachaklait promotes various means of continuing education for our clients, in the form of conferences, meetings and formal studies, to keep them up-to-date with the vast changes in veterinary knowledge.

Once a year in autumn, Hachaklait organizes a Herd Health workshop in English for large animals' vets from all over the world. For details please refer to our site (address below).

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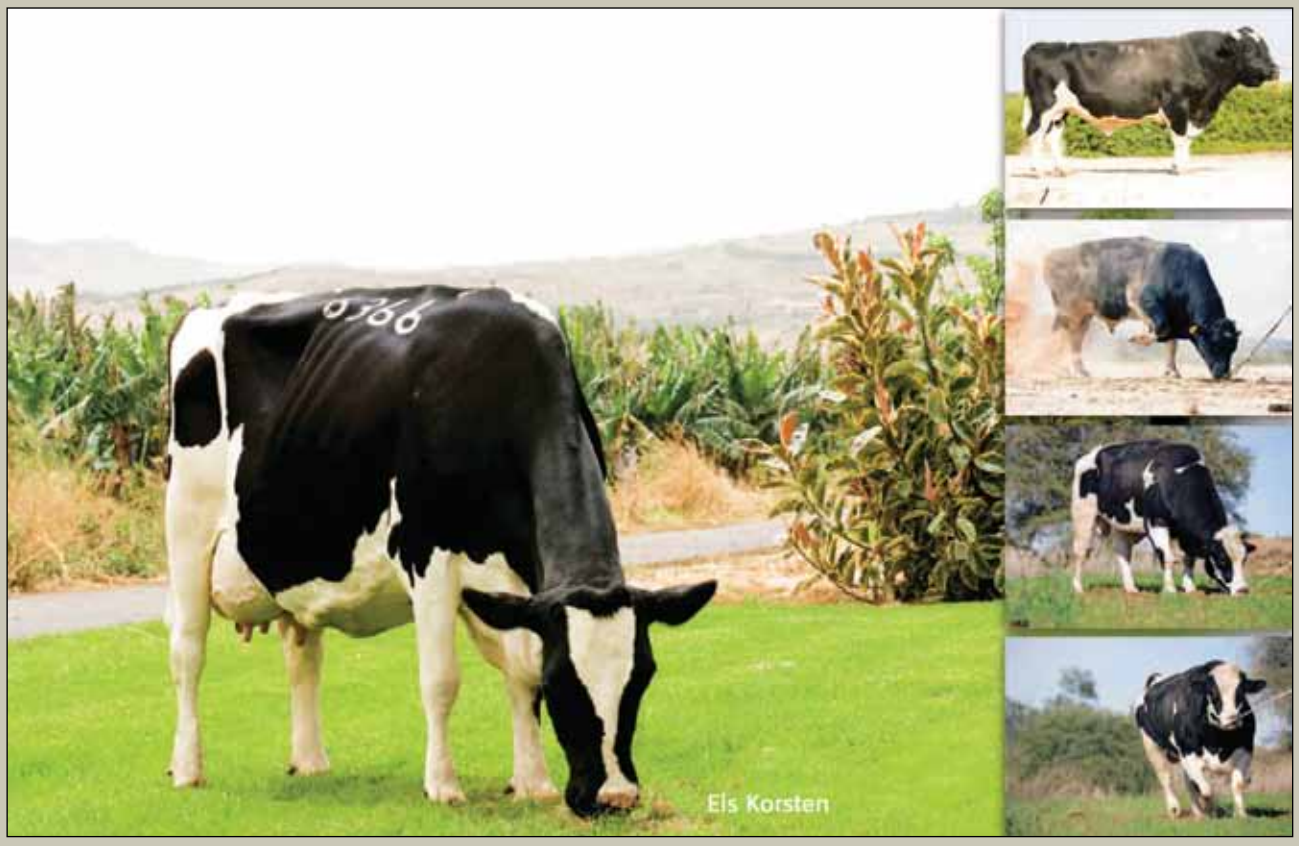

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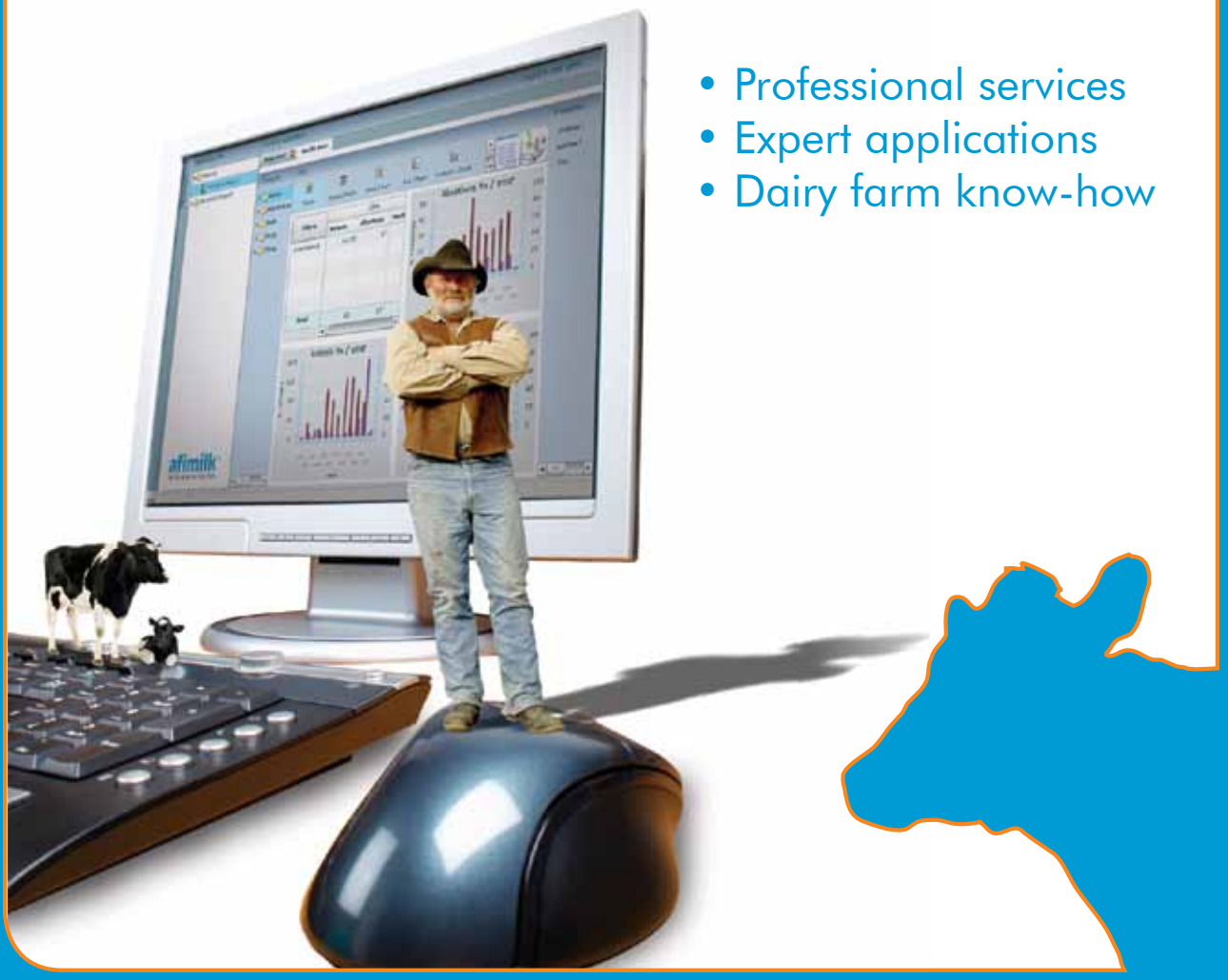

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Description

Founded in 1977, **afimilk Ltd.** (S.A.E. Afikim) has become a global leader in developing, manufacturing and marketing advanced computerized systems for the modern dairy farm, and for herd management. The company , since its inception, has been a leader through innovation: **afimilk** introduced the world's first electronic milk meter more than 30 years ago, the first **pedometer** to monitor cows, the first dairy farm management software and the first online milk analyzer (**AfiLab**). These tools have enabled farm managers to improve performance and maximize efficiency, ultimately increasing profits.

A Global Presence

afimilk systems and products are in use worldwide. The company is active in more than 50 countries: thousands of farms, hundreds of thousands of milk meters, millions of pedometers.

Solutions

afimilk leading product line, is an automated modular system for intensive dairy farm management. The fully integrated software program, **AfiFarm**, collects information about each animal, builds a database and generates reports. This gives the farmer real-time information about herd health, milk quality and other critical factors, and enables well-informed decision-making.

R&D

afimilk is firmly committed to R&D. Investing heavily in R&D, the company maintains topnotch research resources, and a large, advanced, experimental dairy farm. These assets, together with **afimilk** contacts with industry leaders and opinion-makers worldwide, enable development of practical, effective tools that fulfill the dairy farmer's needs.

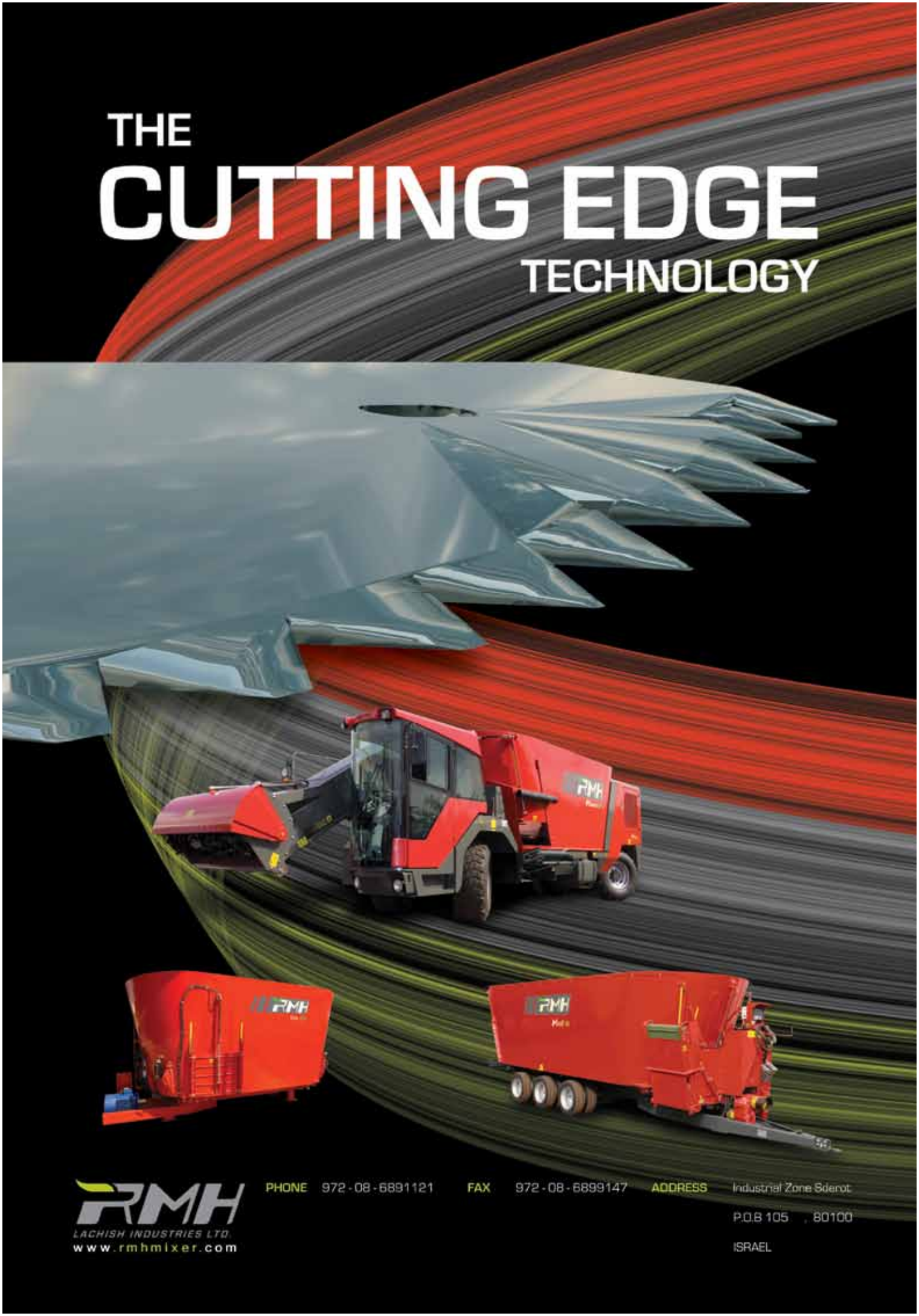
Sheep and Goat Systems

In recent years, **afimilk** has moved into a new arena: small ruminant dairy farms. Now marketing its innovative systems to sheep and goat farms, **afimilk** helps ensure high herd productivity, good health and successful reproduction, all vital for profitable livestock farms.

Entrepreneurial Assistance

afimilk new division, AfiEnterprise, provides entrepreneurs and early stage dairy investors with the structural elements and technical components needed to establish a profitable dairy farm enterprise.

afimilk is currently involved in the world's largest dairy farm project, in Vietnam. To date, the project has been implemented in six of 12 farms with 12,000 heads of cattle. By 2015, 32,000 cows will be milked with afimilk system. The company's project team plans and constructs milking parlors, sheds, field crops and feed centers, and provides management.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Lachish Industries

Greetings,

Lachish Industries is a leading company in its field, developing, manufacturing and marketing cattle feeding machinery, ration planning software and management packages for dairy farms, operating in a competitive market around the world.
The company maintains leading technology and produces the widest variety of machines that include trailers, stationary and self-propelled mixers, having volumes that range from 4 to 50 cubic meters. During the course of the 54 years of its operation, Lachish has developed great expertise together with an experienced, skilled team in cooperation with the Israeli dairy farms - a principal factor in terms of milk production; thus, the company has taken a leading role from a technological standpoint.
The dairy farm in Israel is one of the most advanced in the world, maintaining high performance and production levels, implementing accrued knowledge and managing activity interaction with great professionalism, all of which are contributing factors in making this industry a great economic success.
Total cost of feed in dairy farms may reach as high as 75% of the global expenses of the dairy farm; in fact, proper feed management is the most influential factor in the output and economy of the dairy farm and is crucial for the general health of the cows. For decades a concept that has been operating worldwide - TMR- Total Mix Ration, deems that if all of the feed ingredients are combined and cut to a specified size, the cow will obtain an improved feed that will be optimally digested, resulting in high milk yield and healthy cows. Most of the leading farms in the world are already working according to this concept and this is precisely where Lachish's expertise comes into play.
Lachish has developed a variety of heavy duty and long lasting equipment which provides complete feeding solutions for numerous types of farms, varying in size and required conditions, throughout many geographical areas in the world.
The Israeli farm constitutes a seminal factor in equipment development and in fact, functions as a "beta-site" for Lachish, posing challenges for the company to develop innovative and advanced products that are marketed first to the Israeli farms, and then later launched throughout the world. This gives the Israeli farm the additional advantage of having a local manufacturer available that provides high-quality solutions for different technological needs.
In the last few years Lachish has invested in developing more sophisticated, heavy duty and low-energy consumption machines to suit the growing need to save on overall costs and to provide the best solution to the modern farms. Since the extreme changes in the past few years of high fuel costs, saving energy has become an important issue in all the markets.
Lachish is seeking suitable distributors in different countries. Distributors can arrive from two different fields of expertise: The dairy farm business sector; selling equipment for dairy farms, such as milking equipment, cooling tanks and feed, or from the agricultural equipment business sector, having contact with dairy farmers and are familiar with dairy-farm business procedure.

More information can be found in our site.
You are welcome to contact us with any questions:
www.rmhmixer.com – www.lachish.com

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Heat Detection

SCR Heatime® System for accurate detection of reproductive status

The system consists of collar tags, control terminal and an ID unit. Activity data is stored in the tag for up to 24 hours with 2 hour data storage block. Once the cow nears the ID unit, data is transferred from the tag to the unit. The control terminal then analyzes the activity data, using proprietary algorithms which differentiate between a cow's regular daily activity and estrus-related activities. Cows displaying estrus-related activity levels prompt alerts on the control terminal.
A detailed graphic cow activity report then enables informed decision-making about reproductive processes.

Rumination Monitoring

SCR Heatime® HR for health and reproduction management

In addition to the benefits of estrus detection, the revolutionary HR system adds rumination monitoring for close monitoring of cow status and early identification of potential health issues. Patented HR collar tags measure activity and rumination with advanced sensors, accurately recording body movements and their intensity as well as the cow's internal state. Data is transferred from the HR tags to the Heatime HR terminal and once a cow is detected to be in heat or potentially sick, the system provides alerts. Detailed graphic reports for each individual cow support unprecedented pinpoint decision-making about health and reproduction.

Milking Point Solutions

Advanced milking controllers based on accurate electronic milk measurement devices

SCR's smart pulsators, milk yield measurement devices and milking control devices provide unparalleled performance in the individual milking point, reducing milking time by up to 20%. Existing parlor upgrades are easy, components can be added gradually and are compatible with any milking system. Simple push button operation and automated cluster removal simplify and reduce the work involved. Digital displays with clear and simple alerts provide pit operators with an indication of milk yield, milk quality (reliable mastitis and blood detection), equipment malfunction and any other disruptions to the milking process.

DataFlow II

Milking and Herd Management System

The innovative architecture controls the components of the milking parlor, heat control and rumination monitoring, and is compatible with 3rd party solutions. DataFlow II monitors herd health, reproduction and milking management for maximum productivity, by providing comprehensive views of both individual cows and the herd in easy to use reports and graphs. The solution is scalable and customizable for farms of all sizes.

Sheep and Goats Management Solution

SCR OpiFlow ™ for accurate milk yield monitoring of sheep and goats

A comprehensive recording and tracking of individual animal and herd events ensures an efficient herd management system. Individual data is collected by mobile device for ease of use.

In addition to its broad portfolio of solutions, SCR also provides turnkey project-management services and dairy-herd management consulting, in order to maximize herd welfare and operating efficiencies. SCR incorporates years of experience in every aspect of dairy farming, constant investment in know-how and research and development in order to plan, construct and operate dairy farms.
SCR is a privately held company, employing 200 people. Headquartered in Israel, with a US subsidiary and sales offices in China, **SCR is a driving force for progress in the dairy industry** and is fully committed to the industry's stringent quality standards.

For more information go to **www.scrdairy.com**

AMBAR
Feed Mill

Discover Livestock Potential with Feed Expertise

Ambar Feed Mill is Israel's largest livestock feed enterprise and is run in compliance with the world's most advanced manufacturing methods and regulations.

In addition to its standard production line, Ambar produces animal feed for several sectors including broilers, turkeys, breeders, layers, fish, dairy herds, beef calves, sheep and goats.

Ambar is capable of complying with specific demands from its customers in everything pertaining to feed composition or specific requirements.

Ambar owns several feed centres all over the country which provide T.M.R (total mix ration) to dairy herds, feedlots and small ruminant farms.

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Ambar Feed–Mills

Ambar Feed–Mills, the largest feed-mill enterprise in Israel, is run and managed in compliance with the world's most advanced manufacturing methods and regulations. It was founded in 1961 as a regional facility, jointly owned by the 39 kibbutzim that comprise the Granot regional organization, and collective moshavim in central Israel. Over the years, the list of owners grew and now, the owners are farming communities of three other regional organizations, a total of 148 kibbutzim and moshavim, from the Haifa district in the north, down to Eilat area, on the far south. Ambar owns two major production sites: Ambar North–located in Granot industrial area, and Ambar South– near Kibbutz Dvir in the north-eastern Negev.

In 2010, Ambar marketed over 830,000 tons of feed, aiming for the one-million ton mark. Ambar produces concentrates for all branches of poultry, large and small ruminants and fish, mostly standard line, but also customer designed concentrates for ruminants. Ambar's mission is to serve all sectors of the livestock, supplying optimal formulation of concentrates in term of economical feasibility and nutritional requirements. In accord to the poultry breeder's specific demands, Ambar has launched a special feed mill, operating according to strict bio-security regulations.
Ambar's large-scale laboratory is equipped with state-of-the-art equipment, and is working closely with the nutrition department and production-line under strict QC procedures. Ambar's shipping department operates a large fleet of the latest, clean and sterilized trucks. Ambar holds its own premix plant, producing vitamins premix from totally secured sources; the plant offers reliable and accurate vitamins and minerals premixes for Ambar's concentrates, as well as to external customers.

Apart from its activity in feed, Ambar is involved in other operations interfacing with this area such as:

1. Ambar Feed Centers (100% ownership):
Ambar's 8 feed centers, located throughout Israel, produce and deliver TMRs for all branches of ruminants – dairy cows, dry cows, heifers, fattening bulls, goats and sheep – a total of ~ 250,000 tons/year. Ambar's feed centers were the first to introduce to Israel the on-bunk-delivery TMR truck, and the unique TMR compounded feeds tailor-made-concentrate method;

2. Ownership of Alef Bar (100%):
Alef Bar is a branch of Ambar and currently produces over 30,000 tons of poultry meat/year. The company is managed by Ambar and includes cooperative projects with Cornish Hen Ltd, Efrat and Mishmar Ha'emek;

3. Partial ownership (50%) of the Ramit and Efrat companies:
Efrat and Ramit represent the international companies Ross Breeders, and BUT; they operate parent stock for broilers and turkeys;

4. Partial ownership (50%) of Cornish Hen Ltd:
Cornish Hen Ltd owns slaughter-houses for broilers and turkeys, operating in few sites – Off Hanegev, which produces 42,000 tons of broilers, Ma'of – 30,000 tons of turkeys, Hod Hefer slaughters 26,000 tons of broilers, and 8,000 tons of turkeys, and Kfar Menachem – high kosher 10,000 tons broilers yearly;

5. Partial ownership (50%) of Mekorit Bar Ltd:
Mekorit Bar Ltd breeds and markets light layers chicks.

Setting the highest standards on issues of quality and customer service has brought Ambar to its current status as Israel's top feed mill in livestock feed market. Ambar believes it vital to continue maintaining that commitment to its customers as a reliable, professional, and effective organization – for its customers to successfully breed and raise livestock.


For Those Who Care About
Premium Taste...
Tnuva
Creamy Soft Cheese
Low Fat
95%
Fat Free
Tnuva
Quark Creamy Soft Cheese
95%
Fat Free
Taste the Land of Milk & Honey
For further information about store locator, tips and recipes
visit www.tnuva.com
TNUVA

Tnuva Innovation Spurs American Success

The phenomenal challenge to introduce a wide range of Tnuva cheese and dairy products to both kosher and mainstream consumers in North America has been a critical component of Tnuva's global food expansion efforts. Under the guidance of Yoram Behiri, President of TnuvaUSA, the company has used innovative promotions, target-specific advertising and enhanced marketing efforts to attract both kosher and mainstream consumers alike.

TnuvaUSA's auspicious entry into the North American marketplace came at the very moment when both medical professionals and dieticians redoubled their efforts to promote a variety of low-fat diets including the Mediterranean diet, which is highlighted by premium low-fat dairy products and cheeses. As Tnuva has always prided itself on responding to the changing needs of consumer lifestyles, the company was perfectly positioned to introduce North American consumers to premium quality hard and soft cheeses, Mediterranean feta cheeses ,puddings and pastries.

Within the category of hard Cheeses, the Emek line including Swiss, Edam, Milk Cheddar and Muenster Sliced Cheeses, has become extremely popular amongst North American consumers, with the "Light Sliced" versions, Edam and Swiss, leading the pack. In fact, the packaging of all the hard cheese has recently been redesigned and the new, light, blue-toned packaging will be entering the marketplace shortly.

Health-conscious North American consumers are also becoming accustomed to purchasing Tnuva's array of soft cheeses including 4 low-fat types of Quark-Creamy Soft Cheese and 3 types of Cheese Spreads. The soft cheeses are a premium alternative to locally produced sour cream cheeses, while the Cheese Spreads are showcased as the Israeli version of rich cream cheeses, which are Sabbath afternoon and Sunday morning staples amongst the North American Jewish community. In 2012, Tnuva has also added a third flavor to the Labaneh collection of sour cheese spreads. Labaneh with Piquant Peppers Seasoning and Olive Oil joined Labaneh (original) and Labaneh with Za'atar Seasoning and Olive Oil in providing American consumers with delicious and nutritious cheeses straight from the Land of Milk and Honey.

TnuvaUSA has also taken advantage of the growing popularity of Mediterranean-style foods in the North American marketplace, by introducing a wide selection of Feta cheese products including Sheep, Cow & Goat Milk Feta Cheeses that are available to consumers in a variety of packaging options. In addition, Tnuva offers a premium Pasteurized Goat Cheese Roll.

Parents have also lionized Tnuva for introducing low-fat puddings for youngsters as a healthy snack alternative that is also rich in bone-building calcium. The four pudding flavors are; chocolate, vanilla, chocolate and vanilla, and a chocolate pudding with vanilla mousse.

Tnuva's line of unique Ma'adanot Mediterranean frozen and phyllo dough pastries, including bourekas, Malawach, Jachnun and mini-pizza bites have become a popular anytime-of-day treat for American consumers, who relish products that are both simple-to-use (just heat and eat) and simply delicious. In September, Tnuva will debut a line of delectable blintzes, as well as puff and short pastries.

Amongst the vital elements in Tnuva's successful transition into the North American consumer market is the usage of image-enhancing "buzz words" and marketing tools. Point-of-purchase "Flash Cards" have "educated" consumers of the origins of various cheeses and their practical application to daily menus. This form of branding has spurred the large ShopRite supermarket chain to invite Tnuva to become the first Israeli food company to have their sliced hard cheeses offered in the deli sections at hundreds of supermarkets across the metro New York-New Jersey region. Their strategic marketing, advertising and public relations campaigns have focused on the Holy Land's pastoral Galilee region (equivalent to the American version of Wisconsin – the Dairy Cheese Capital of the USA), where dairy and cheese products are produced at the state-of-the art Alon Tavor facility. The image of dairy cows roaming freely across the Galilee and producing perhaps the finest milk in the world has resonated among both Jewish, Christian and mainstream consumers.

TnuvaUSA's colorful and informative website, www.Tnuva.com, provides consumers with nutritional information about each product, store locations, delicious recipes and useful tips. The website has also been a focal point for promotions and contests, where consumers can win valuable prices, including trips to Israel.

Tnuva also understands the importance of contributing to the community. Last Hanukah, TNUVA USA provided thousands of colorful dreidels to 50 Chabad branches across the USA. The Chabad branches handed out the dreidels to children of all ages during the course of the 8 day festive Chanukah holiday, bringing smiles to the faces of thousands of Jewish youngsters from all walks of life across the country. TNUVA also sent hundreds of paint-your-own Purim masks to dozens of Reform, Conservative and Orthodox synagogues and JCCs throughout the metropolitan New York/New Jersey region.

Israel Cattle Breeders Association