

The ICBA Database

Ephraim Ezra _____ICBA, Herdbook Manager

In 2004 the Israeli Dairy Herdbook collected information from 99,537 cows in 775 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.
- **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

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.





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** – Every three months 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 80% of the cows registered on the DHI are located at farms that use a management computer program. About 90% 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 Genetics 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.

