Milk production, animal recording, dairy advisory services and cattle breeding in Finland

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Finland

- 5,250,000 inhabitants
- 1 million in Helsinki metropolitan area; Lapland + Kainuu 114,000 km² with only 271,000 inhabitants
- Languages: Finnish 91.6%, Swedish 5.5%, Russian 0.75%, Lappish 0.03%, others 2.1%
- Religion: Lutheran 83%, Orthodox 1.1%, others 1.1%, not registered 15%
- Independent since 1917, earlier under Swedish and Russian rule
- EU member since 1995
- Average temperature 6.0°C in the south (Helsinki), -0.5 °C in the north
- Great variation in day length – “nightless night & dayless day”

Agriculture in Finland

- The northernmost agricultural country in the world
- Short growing season: 180 days in the South, 110 days in the North
- 2,219,000 ha of arable land (6.5% of the territory)
- 70,000 farms (30 ha per farm)
- Main cultures: grass, barley, oats, rye, wheat, rapeseed, potato, sugar beet
- Family owned agriculture
- Agriculture 1.2% of GDP, 4% of labour force
- 40% of agricultural gross return from milk revenues

Milk production in Finland

- Milk is the most important agricultural product in Finland
- 2005: 15,840 dairy farms; 316,800 cows; dairy deliveries 2,293 millions of litres
- Average yield of all cows 7835 kg per cow; average herd size 20 cows
- Breeds: 71% Ayrshire, 28% Holstein, 1% Finnish Cattle
- Feeding based on grass silage, oats, barley and rapeseed meal
- 25% of production exported, main markets Russia, USA and EU
- Functional dairy products & their production licenses

Milk recording and advisory services

- ProAgria provides a large range of advisory services to the farmers, including milk recording
- Production, feeding, economy planned, production processes and costs analysed
- Milk recording 2006: 10,300 customers, 78% of all cows, 81% of milk
- 2005: 22.3 cows, 8427 kg milk, 266 kg protein (3.41%), 354 kg fat (4.20%)
ProAgria services for customers

- Advisory service providers
- Cooperation
- Farm in its entirety

Farm Competitiveness Analysis
- Economic key figures + thorough interview of farmer and workers
- Strategy, leadership, customer relations, knowledge management, competency, processes

Herd size and annual yields in Finland

- Year
- Cows/herd
- Milk kg

Milk yield per breed in 2005

- Milk kg

Easier milk recording

- Long distances, small farms & high labour cost
- Non-sampled tests every two months; farmer sampling (97%)
- One-milking sampling (52%), milk-sum recording
- Collection of data by farmers
- Reliability check through dairy delivery data
- Advisor visits farmers 2-6 times per year to analyse results, plan and improve
Dairy production benchmarks

- Dairy benchmarks
- Economic databases
- Plant production databases

Dairy Benchmarks

Internet service

ProAgria Milk Dairy Benchmarks

Data sources in Finnish Dairy Breeding

- Herd books
- FABALAB: DNA-tests
- Genetic defects
- EU-animal register
- Lifetime
- Interbull
- Health recording
- Functional traits
- Milkability, leakage, calving traits
- Classification
- WHFF traits
- NAV harmonisation

Dairy breeding

- Breeding values for over 60 different traits
- Total Merit Index TMI has been used for many years
- Fertility and health traits has been evaluated over 20 years
- Efficient use of test bulls: 40% of inseminations are done with test bull semen

Artificial insemination in Finland

- 180 AI-bulls are tested in Finland every year
  - 120 Ayrshire
  - 50 Holstein
  - 8 Finncattle
- Big daughter groups: average 200 daughters / bull
Total merit index = economical efficiency

Bulls:
- 1.0 * protein kg
- 0.3 * fat kg
- 0.3 * protein content
- 0.4 * fertility
- 0.5 * udder conformation
- 0.3 * udder health

Cows:
- 1.0 * protein kg
- 0.3 * fat kg
- 0.3 * protein content
- 0.5 * udder conformation
- 0.3 * udder health

Finnish Ayrshire       Swedish SRB
70 first lactations
Recipient Network
male calves
female calves
heifers back to nucleus
male calves
female calves
70 first lactations
Recipient Network
heifers
heifers
STU-embryos
ASMO-embryos
ASMO donors
male calves
female calves
ASMO Nucleus Herd
with Recipient Network
Finnish Ayrshire
Swedish SRB
bulls for AI
bulls for AI
Recipient Network
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