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7 Agriculture and Forestry

Neuchâtel, 2.2013

From grass to milk Milk production in Switzerland

Dairy farming and milk production constitute the most important branch of agriculture in Switzerland. In 2011, some 590,000 cows on 32,000 farms produced over 4 million tonnes of milk. Dairy farming has seen great change, in particular regarding how cows are kept and the technology used. Due to advances in breeding techniques, milk yields have risen. In addition to this, agricultural policy changed, milk quotas were abolished and milk prices dropped. Dairy farms were more seriously affected by the structural change brought about by this upheaval than were farms across the board. In terms of consumption of milk and milk products, the population is consuming less milk but more cheese.

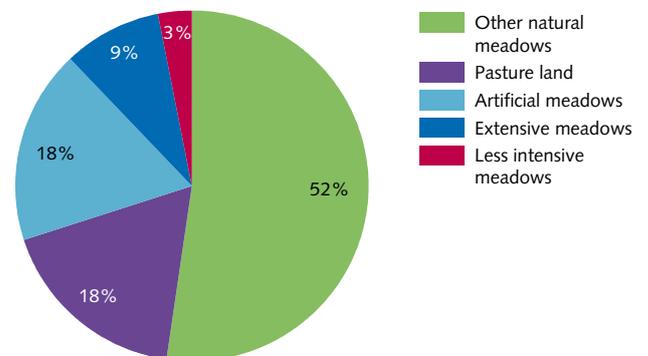
Switzerland, a land of meadows and pastures

The agricultural area covers 24% of Switzerland's total surface area and the alpine agricultural area 13% (Land Use Statistics 1992/1997). The largest areas of alpine grazing areas are found in the cantons of Graubünden (1690 km²), Bern (856 km²) and Valais (734 km²). Switzerland's alpine farming area decreased overall between the survey periods 1979/85 to 1992/97.

Due to the climatic and topographical conditions, agricultural land is mainly used for meadows and pastures. In 2011, 71% of the agricultural area (excluding alpine areas) was grassland (G1). 82% of these were permanent meadows and pastures. The rest is temporary ley that is incorporated in arable crop rotation.

Grassland, 2011
Excluding alpine areas

G 1



Source: Federal Statistical Office

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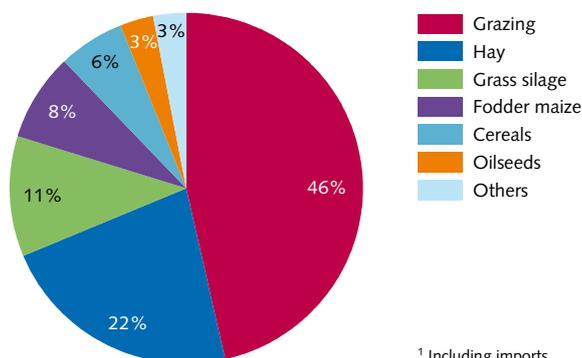
Half of dairy cow fodder comes from pastures

Meadows and pastures provide ideal cattle fodder. Hay and grass are the basis of cattle feed. In addition, cows are given corn, feedgrain, oil seeds as well as other field crops (e.g. sliced sugar beet) (G2). Feed for cattle (especially soya and cereals) is increasingly being imported. In 2010 imports accounted for 8.5% of all cow feed.

Cows feeding¹, 2010

In dry matter

G 2



¹ Including imports

Source: Swiss Farmers' Union, SFU Statistics

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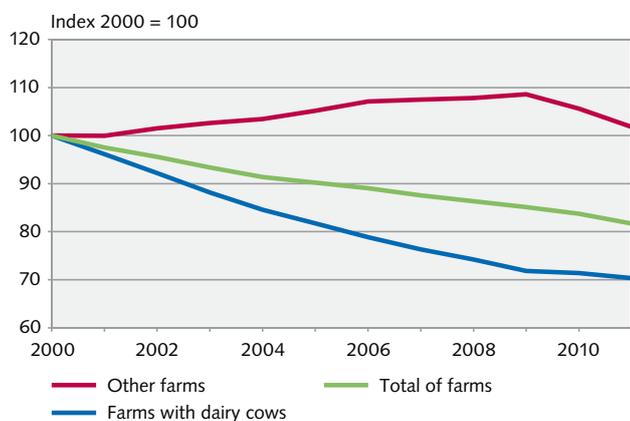
Structural change in dairy farms

Swiss agriculture is dominated by milk production. 70% of all farms keep cattle. In 2011 there were 58,000 farms in Switzerland. 32,000 of them had dairy cows. 2920 farms or 9% of milk producers produced organic milk. The Swiss dairy herd has decreased by 12% since 2000 and in 2011 comprised 590,000 cows. Most dairy cows are kept north of the Alps, in particular on the Central Plateau and the pre-Alps (M1).

Dairy farms have undergone a process of change, over the past ten years in particular. Over this period market subsidies were replaced by direct payments and the state milk quotas were gradually faded out. This began with the introduction of milk quota trading in 1999 and ended with the complete abolishment of quotas in 2009. All dairy farms were affected and had to find a solution for the future. Subsequently, since 2000 there have been 13,400 fewer farms with dairy cows (G3). Between 2010 and 2011 alone 476 farms or 10 per week gave up milk production. The decline between 2000 and 2011 was 30% whereas the number of farms overall fell by only 18%. Farms with dairy cows were, therefore, affected to a greater extent than other farms.

Farms

G 3



Source: Federal Statistical Office

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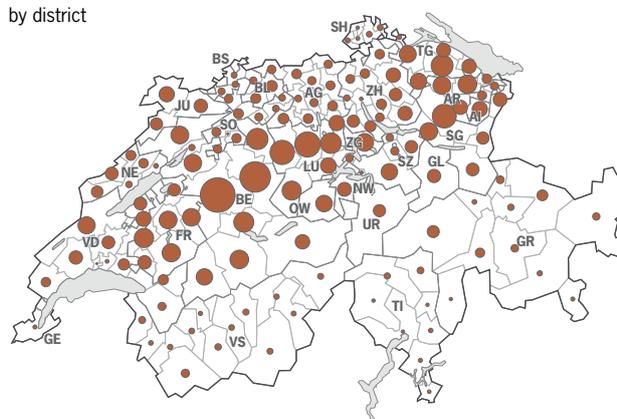
Some farmers abandoned agricultural activities altogether; others re-organised their farms. Among the dairy farms that continued agricultural activities between 2000 and 2011, 74% continued milk production as their main activity. 25% changed the farm structure but continued to specialise in livestock farming. The most common change (14%) was the conversion to suckler cow husbandry (between 2000 and 2011 the number of suckler cows more than doubled), as well as cattle breeding and fattening. Only 1% of farms converted to pure crop production. This meant that nearly all dairy farms continued to keep livestock as their main activity.

Dairy farms are mainly full-time farms (88% of dairy farms). In 2000 the average farm had 15 dairy cows. Since then the herd size has increased and in 2011 was 19 dairy cows on average. The herd size in valley regions remained larger than in hill and mountain regions.

Dairy cows, 2011

M 1

by district



Dairy cows



CH: 589 239

Source: Farm census

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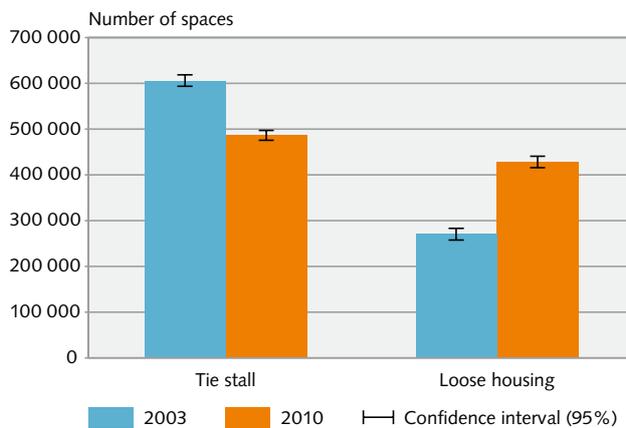
High tech in the cowshed

As farms become specialised, the equipment found in stables and cowsheds is becoming increasingly mechanised and modernised. The traditional barn with animals in tie-stalls is on a constant decline and more free-stall systems are being built (G4). In the years 2003 to 2010, 160,000 new places were created for cows in free stalls, so that in 2010 a total of 430,000 places were available. Free-stall stabling offers certain advantages for animal health and labour efficiency. The free-stall system is considered to be particularly animal-friendly and is promoted through direct payments. According to direct payment data from 2011, over one third of dairy cows are housed in such stalls and 80% have regular access to outside areas.

In 2010, the bucket milker (15,000) was most widespread, followed by pipeline milking (12,000) and the more labour-intensive milking parlours (10,000). According to estimates, 760 farms still milk their cows by hand. On the other hand, the introduction of 180 milking robots has brought high tech to the cowshed. However, these are not popular with everyone. Milking robots are not allowed, for example, for the milk in Gruyère AOC cheese, as according to the AOC specifications for Gruyère production, cows have to be milked twice a day, in the morning and in the evening. This cannot be achieved with automatic milking systems where cows go freely to the milking parlour several times a day.

Housing systems cows

G 4



Source: Federal Statistical Office

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The development of stall systems has been accompanied by the modernisation of feeding technology. In 2003, 2200 farms used computer-controlled feeding systems for cows. In 2010, 2700 dairy farmers or 7% of all farms with cows possessed such a system.

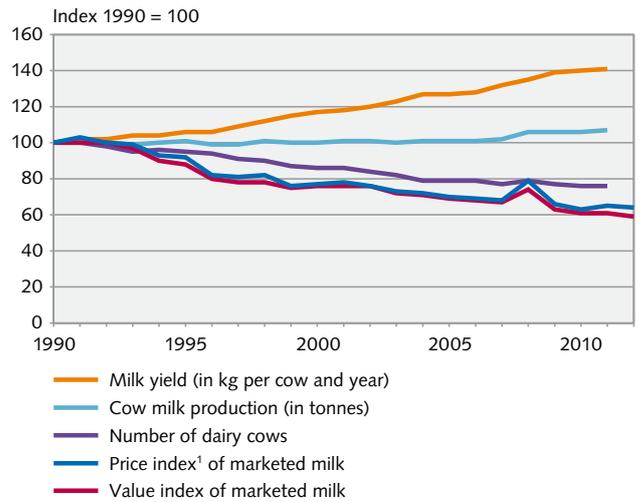
Fewer cows but more milk

Despite the decline in the number of dairy cows, the amount of milk produced has increased because the milk yield per cow has risen (G5). In 2000, the average annual milk yield was 5,700kg of milk per cow. In 2011 it was 6,900kg. On average a cow (with a lactation period of 300 days) gives 4kg of milk more per day than in 2000. This increase has only been possible thanks to advances in breeding (selective breeding for high milk yields, cross-breeding of dairy cattle), improvements in husbandry (feeding, stabling conditions) and in farmers' know-how.

In 2011 a record 4.1 million tonnes of milk were produced. After the gradual abolition of milk quotas up until 2009, the milk yield rose continuously. A new milk market came into being in which government price and purchasing guarantees no longer existed. Milk purchasers are large dairies as well as small-scale, commercial cheesemakers producing specialities.

Milkproduction

G 5



¹ At current prices

2011 = provisional
2012 = estimate

Sources: F50, Swiss Farmers' Union, SFU Statistics

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Falling output value of milk

According to the economic accounts for agriculture in 2012, milk accounts for 45% of Swiss agriculture's animal output. Although the amount of milk put on the market increased, the output value fell. In 2012 it was approximately CHF 2.1 billion. The reduction in the milk output is a direct consequence of the lower milk price.

The milk price for producers has fallen considerably in recent years (T1). The price for organic milk continues to be highest but it has also fallen by 16 centimes per kilo since 2000.

T1 Milk price for producers¹ in cents/kg

	2000	2011	Change 2000/2011
Milk marketed	79	63	-21%
Industrial milk	78	61	-22%
Milk processed to cheese	79	67	-15%
Organic milk	94	77	-17%

¹ Excluding bonus for feeding without silage, inc. VAT

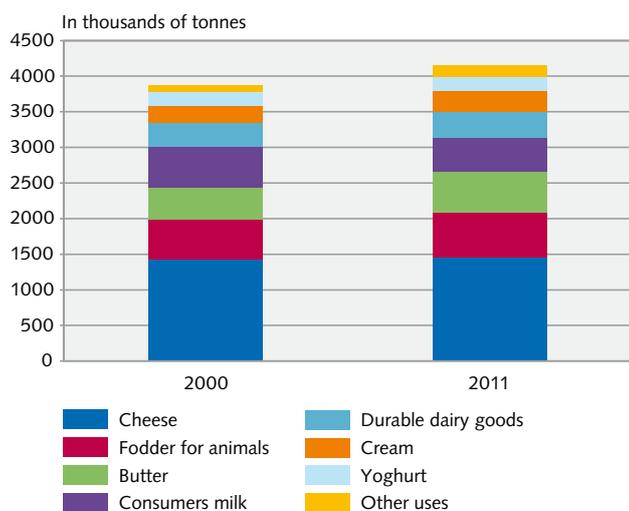
Source: Federal Office for Agriculture

Use and processing of milk

In 2011, approximately 85% of all milk produced in Switzerland was used for human consumption (G6). 12% is used as drinking milk; the remaining 73% is manufactured into cheese, yoghurt, butter and milk-based drinks etc. 15% of the total milk production is used to feed animals, particularly calves.

Milk processing, 2011

G 6



Source: Swiss Farmers' Union, SFU Statistics

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Record production of butter and cheese

In 2011, 182,000 tonnes of cheese was made from 1.5 million tonnes of milk. In terms of quantity, Emmentaler AOC and Gruyère AOC are the most important cheese types. Across all cheese types production rose: in 2011 it was 25% greater than in 1990.

Butter manufacture also increased from 37,000 tonnes in 2000 to 49,000 tonnes in 2011. The reason for this was not only the record milk yield, but in particular the trend towards a low-fat diet. The reduction in the fat content of commercial milk (standardised milk) and several milk products led to an increased production of butterfat. This was turned into butter.

Milk can also become a storable good by converting it to milk powder. In 2000, 40,000 tonnes of milk powder was produced; in 2011 this figure was 54,000. This is mainly exported and sold at fluctuating prices on the global market.

Switzerland has been exporting milk products for generations. Among others, due to the growing amount of milk produced, cheese, butter and milk powder exports have increased in recent years.

Falling milk consumption

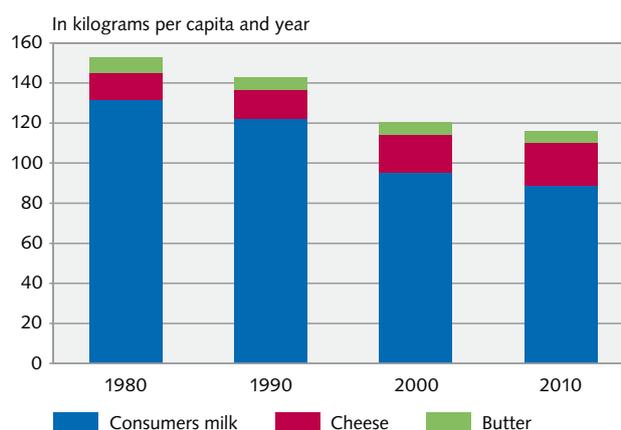
Due to changing consumer habits the consumption of commercial milk has fallen since 1980 (G7). In 1980 132kg of milk (17% of total food intake (by weight)) was consumed per person per year, whereas in 2010 consumption was only 89kg (13%). This corresponds to a daily consumption of 2.4dl of milk per person.

According to the household budget survey, in 2010 households (with an average of 2.2 persons) spent an average of CHF 100 per month on milk and milk products (including butter), making up 15% of expenditure on food and non-alcoholic beverages. Households spent CHF 45 on cheese and CHF 13 on yoghurt. They also bought milk, butter, cream, quark, condensed milk, milk powder and other milk products for approximately CHF 40.

In 2000 consumers paid an average of CHF 1.57 for a litre of milk. In 2011, it cost CHF 1.54 (-2%). In spite of this, milk consumption fell.

Consumption of milk and dairy goods

G 7



Source: Swiss Farmers' Union, SFU Statistics

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Methodology

- This study includes data from the following sources:
- Economic accounts for agriculture, Federal Statistical Office
 - Farm structure surveys, Federal Statistical Office
 - Food and fodder balances, Swiss Farmers' Union, SFU Statistics
 - Household Budget Survey, Federal Statistical Office
 - Milk Market Report, Federal Office for Agriculture
 - Milk statistics, Swiss Farmers' Union, SFU Statistics
 - Swiss Consumer Price Index, Federal Statistical Office
 - Swiss land use statistics, Federal Statistical Office

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