Special Publication | 2025

Historical

Agroscope good food, healthy environment

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Swiss Confederation

Federal Department of Economic Affairs,
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Agroscope

Table of Contents

Birth of Agricultural Research

The first fertilizers - phosphates and guano - were used in1850. The first analysis and control laboratories were then launched in Europe, in order to protect customers from imitations. With the knowledge of fertilizer composition came the requirement for optimal dosage. Every type of crop has its own requirements, and every type of soil also needs an appropriate dosage. Soil chemistry and physics therefore gained in importance. Research was also begun into the composition and nutrient content of forage crops for farm animals. Research into digestibility in particular required refined analysis methods as far back as the beginning of the twentieth century. The Federal Research Stations were established as a result.

In the second half of the 19th century, scientific and technological findings began to exert a stronger influence on agricultural production and processing – especially with regard to fertiliser application, feeding and mechanisation, as well as the increasing processing of milk into cheese and condensed milk. Fertiliser and feed analyses, seed and milk inspections and research into cheese fermentation became essential. The switch from cereal to milk production ran in parallel with the upswing in cheese production. Arable land was more than halved, at the same time as cheese exports doubled to 36 million kg from 1871/80 to 1913; a quarter of Swiss milk production at that time went to exports. Good cheese quality became decisive for the price of milk and for farming income.

Further Information:

Wikipedia: History of Agricultural Research

Avenches

Avenches: Postcard of the Swiss National Stud in the 1930s

The Swiss National Stud (SNS) is located south of Lake Morat (Murten), in the heart of the Broye-Vully district in the canton of Vaud, near the small historic town of Avenches. Avenches is known for having been the capital of Helvetia during the Roman era. Founded in 1899, the SNS today houses the Swiss Confederation's centre of excellence for the keeping and raising of equines.

Known far and wide, the Swiss National Stud encourages a sustainable and competitive approach to horse keeping and rearing that is in accordance with needs of the horses. In this context, practically oriented research and knowledge transfer play a key role, with the SNS supporting horse breeding with selected stallions, infrastructure and events.

On 1 January 2014, all of the research stations were merged under the name Agroscope. Agroscope became the Swiss federal centre of excellence for research in the agriculture and food sector, organised into four institutes under the direction of the Head of Agroscope (CEO). Agroscope Council – a body tasked with defining strategic orientation – was also set up.

The reform continued in 2016 with the simplification of Agroscope's structure. On 1 January 2017, the four institutes and 19 research divisions were abolished. Agroscope's research services and enforcement tasks are now the responsibility of 10 newly created units – three competence divisions for research technology and knowledge exchange, and seven strategic research divisions. This brings operational management and staff closer together, with the aim of fulfilling the research organisation's key tasks for the agriculture and food sector with greater efficiency and flexibility, and defining a clear service portfolio.

Part of the 'Animals and Products of Animal Origin' unit – the 'Horse Breeding and Keeping' research group – is based at the Swiss National Stud.

Avenches: Contemporary aerial view of the stud farm with horse clinic

Avenches: View onto the inner courtyard

Avenches: View of the inner courtyard and riding hall

Historical

1874	Federal council resolution leads to the establishment of a federa' foal barn in Thun dedicated to raising potentia.
1898	Founding of a federal stallion and foal barn in Avenches.
1910	Addition of an equine infirmary to the federal stallion and foal barn.
1927	The acquisition of 10 Franches Montagne mares turns the federal stud.
1942	Acquisition of the Domaine Peu Claude in the Jura.
1959	The stud is extended to include an equine clinic.
1969	Birth of the first foal conceived through artificial insemination with frozen thawed semen. The foal is named „Icecream".
1980	The federal council declares equestrian sport a breeding objective. The stud's best stallions successfully compete on an international stage, becoming the first breeding stallions from state run studs in Europe to take part in international competitions.
1994	A federal council resolution regulates the restructuring of the stud, leading to the privatisation of the associated agricultural farm.
1998	The federal stud becomes the Swiss National Stud (SNS).
2000	The federal government decides on a per-formance mandate and on a global budget for the management of the SNS.
2008	The SNS and the research centre Agroscope Liebefeld-Posieux ALP begin the process of merging, developing a joint management to eventually form a unit known as the ALP-Haras.
2011	After the near-closure in 2010, the SNS is given increased protection in the new agricultural legislation (Art. 147) which states that "in support of the horse breeding industry, the federal government maintains a stud (the Swiss National Stud Farm) in Avenches". The new agricultural legislation comes into force on the 1st January 2014.
2012	The SNS is integrated entirely into the research department of the research unit Agroscope-Liebefeld-Posieux (ALP-Haras). The stud's equine clinic merges with the equine clinic of the Vetsuisse faculty of the University of Bern to create the Institut suisse de médecine Equine ISME.
2014	Federal agricultural research centres are consolidated under the name Agroscope to form one national research institute for the agrifood sector. This unit replaces the existing research centres Agroscope Changins-Wädenswil ACW, Agroscope Liebefeld-Posieux ALP-Haras and Agroscope Reckenholz-Tänikon ART. The Swiss National Stud becomes part of Agroscope's Institute for Livestock Sciences (ILSI).
2017	Agroscope has restructured its activities. There are now three practice-oriented «Competence Divisions for Research Technology and Knowledge Exchange» as well as seven «Strategic Research Divisions». The latter are charged with the development of scientific know-how. One of the three Competence Divisions is called «Animals, Animal Products and Swiss National Stud».

Changins

At the end of the 19th century, the vines of West Switzerland were afflicted by disease. This marked the establishment of the Vaud Vine Research Station in 1886. The Swiss Federal Research Institute Changins (RAC) resulted from the amalgamation of the Swiss Federal Research Station for Agricultural Chemistry (founded in 1886), the Swiss Federal Seed Control Laboratory (founded in 1898) and the Swiss Federal Vine Research Station (founded in 1915). From 1976 to 2006 the RAC was based in Changins near Nyon on Lake Geneva.

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Changins is the main 'Agroscope West' site. A new unit, 'Plant Protection Products', is based in Changins.

Liebefeld

Schweiz. landw. Versuchs- und Unterschungsanstalt Bern (Liebefeld) – Hauptgebäude

In the second half of the 19th century, scientific and technological discoveries began to exert a stronger influence on agricultural production and processing, especially in fertiliser application, feeding and mechanisation, as well as in the increasing processing of milk into cheese and condensed milk. Fertiliser and feed analyses, seed and milk inspections and research into cheese fermentation became essential. The switch from cereal to dairy production ran in parallel with the upswing in cheese production. Arable land was more than halved, whilst cheese exports from 1871/80 to 1913 doubled to 36 million kg; at the time, one-quarter of milk production went to the export market. Good cheese quality became decisive for the price of milk and for rural income.

The first experimental and inspection stations were created at the recently established cantonal agricultural schools, almost all of which were equipped with farm estates: Kreuzlingen (Thurgau canton, est.1839-69), Strickhof (Zurich, 1853), Rütti (Bern, 1860), Muri (Aargau, 1861-73), Lausanne (1870) and Sursee (1885), as well as at the ETH Zurich's Agriculture Department, opened in 1871. Worthy of mention among the numerous private initiatives were the Swiss Alpine Farming Association's Dairy Experimental Station in Thun, headed by R. Schatzmann (est.1872), F.G. Stebler's Seed Inspection Station in Bern (1876) as well as its counterpart in Lausanne, and the commercial-manure analyses and inspections organised by the Swiss Agricultural Association (1864).

The priority research areas and tasks of the Federal Experimental Stations were then outlined in the Federal Council message of 12 March 1896 on the basis of an expert opinion. Major shortcomings were pinpointed above all in dairy farming (causes of faulty cheese fermentation, influence of milk quality, feed, etc.), and the creation of a Federal Experimental Dairy Station was deemed to be of paramount importance.

The question of location gave rise to much debate. Chief among the contenders were Zurich (link with the ETH), Bern and Lausanne, given that experimental stations already existed there. The canton of Bern acquired a suitable 13.4-ha farm in Liebefeld/Köniz (5 km outside of Bern) and in 1897 gifted it to the Swiss Confederation for the purpose of establishing the planned experimental station. This decided the question of location.

The federal government mandated the construction of a new-build experimental station with a vegetation hall and experimental cheese factory, which was occupied in 1901. Liebefeld thus became the site for the following three institutes:

1. The **Research Institute for Agricultural Chemistry**: Emerged from the Chemical Research Institute of the Agricultural School, Rütti (canton of Bern, founded 1865); at Bern University from 1891 and taken over by the federal government in 1897.
2. The **Swiss Dairy Research Institute**: Emerged from the dairy bacteriological laboratory of the Dairy School, Rütti (founded 1889) and taken over from the canton of Bern by the Swiss Confederation in 1899.
3. **Farm Estate and Central Administration**
   In the Federal Council resolution of 30 October 1900, a so-called ‘central administration’ was also set up in Liebefeld with the remit of overseeing the accounting departments of the otherwise independent institutes in Zurich, Bern and Lausanne, as well as carrying out and coordinating experiments on the farm estate; it was also responsible for authorisations for the sale of agricultural auxiliary substances.

Expanding in line with economic development and technical progress in agriculture, the remits of the research stations also increasingly included official inspection, advisory and enforcement tasks in the spheres of agricultural auxiliary substances (seeds, fertilisers, feedstuffs, etc.), milk hygiene, cheese factories, food quality and safety, etc. The research stations were thus also always closely linked with the FOAG (previously the Department of Agriculture), and enjoyed a high status there. In fact, two directors, Josef Käppeli (1913-42) and Jakob Landis (1946-57), even started off in the Research Stations.

Swiss Dairy and Bacteriological Institute, Bern-Liebefeld – main chemical laboratory.

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As part of the 2016 reform, Liebefeld became the main 'Agroscope Centre' site and the headquarters of Agroscope. Two units are based in Liebefeld : Method Development and Analytics, and Food Microbial Systems.

Posieux

(in German only)

Die neue Eidgenössische Forschungsanstalt für viehwirtschaftliche Produktion wird in Grangeneuve (Posieux, FR) gebaut.
© Agroscope (1970)

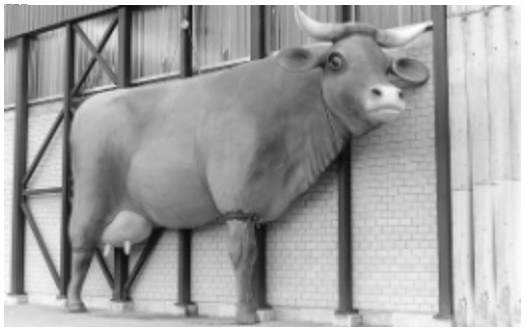
Ursprünglich befindet sich die Eidgenössische Forschungsanstalt für viehwirtschaftliche Produktion in Liebefeld (BE). Aufgrund wachsender wissenschaftlicher Anforderungen werden Ende der 1960er-Jahre neue Versuchsgebäude unabdingbar. Der Bundesrat und die Bundesversammlung beschliessen daher den Umzug der Anstalt in die eigens zu diesem Zweck errichteten Gebäude in Grangeneuve (Posieux, FR).

Der Bau der EidgenössischenForschungsanstalt für viehwirtschaftliche Produktion von Grangeneuve (FAG) beginnt 1970.
© Agroscope (1972)

Im Herbst 1970 beginnen die Architekten Schaller, Lateltin und Oberson die Bauarbeiten für das 57 Mio kostende Projekt. Nach einer vierjährigen Bauphase kann die Einrichtung der brandneuen Gebäude beginnen. Und die Eidgenössische Forschungsanstalt für viehwirtschaftliche Produktion von Grangeneuve (FAG) wird schliesslich 1976 eingeweiht.

Zu Beginn fokussiert die FAG ihre Forschungstätigkeiten auf die viehwirtschaftliche Produktion sowie die Aufbewahrung von Raufutter.
© Agroscope (1974)

Im Zuge der Hochkonjunktur der Viehzucht in der Schweiz, welche neue Herausforderungen, wie die Aufwertung der überschüssigen Lebensmittel tierischen Ursprungs, hervorbringt, verfolgt die FAG das Ziel, Probleme rund um die Rind- und Schweinefleischproduktion sowie die Futtermittellagerung zu analysieren. Die Nutzung von auf dem Hof produzierten Futtermitteln wird zu einem der Schwerpunktthemen in der Forschungsarbeit der FAG.



Ab 1976 kümmert sich die FAG auch um die Kontrolle von Futtermitteln.
© Agroscope (1992)

Ab 1976 kümmert sich die FAG auch um die Kontrolle von Futtermitteln für Nutztiere. Diese Rolle bringt neue Beratungstätigkeiten bei den Futtermittelherstellern, aber auch den Landwirten mit sich.

Die FAG 1980., © Comet Photo

In den 1980er-Jahren umfasst die FAG die sechs folgenden Sektionen:

- Rinderernährung
- Schweineernährung
- Ernährungsphysiologie
- Raufutteraufbewahrung
- Nahrungsmittel und Zusatzstoffe
- Analytik

1050 Tiere zählen Ende der 1980er-Jahre zum Viehbestand der FAG. © Agroscope (1996)

100 Mitarbeiterinnen und Mitarbeiter sind Ende der 1980er-Jahre bei der FAG beschäftigt. Zu diesem Zeitpunkt setzt sich der Viehbestand der Forschungseinheit aus 400 Rindern, 550 Schweinen sowie 100 Ziegen und Schafen zusammen. 67 Hektar (ha) werden für Feldversuche genutzt, davon sind 30 ha Dauergrünland, 28 ha Kunstwiese und 6 ha Mais.

In den Laboren von Grangeneuve werden chemische und mikrobiologische Futtermittel-analysen durchgeführt. © Agroscope (2000)

Im Laufe der Jahre nimmt die FAG neue Forschungsmethoden auf. Zur Evaluierung der Fleischqualität wird insbesondere die sensorische Analyse entwickelt. Zum anderen eröffnet die Anstalt 1994 ihre Chemielabore.

Der Tag der offenen Tür in Posieux 2005. © Agroscope

1996 erhält die FAG einen neuen Namen und wird zur Eidgenössischen Forschungsanstalt für Nutztiere von Posieux (RAP). Seit dem Jahr 2000 ist die RAP schwerpunktmässig in zwei Bereichen tätig, nämlich der Forschung im Bereich Milch- und Fleischproduktion sowie der Kontrolle von Nutztierfutter. 2003 schliesst sich die RAP mit der Eidgenössischen Forschungsanstalt für Milchwirtschaft Liebefeld zusammen, woraus die Eidgenössische Forschungsanstalt für Nutztiere und Milchwirtschaft von Liebefeld-Posieux wird. 2006 wird die Einrichtung in Agroscope Liebefeld-Posieux (ALP) umbenannt. Zwei Jahre später finden sich ALP und das Schweizerische Nationalgestüt von Avenches unter einer gemeinsamen Leitung zusammen, bevor die beiden Einheiten 2012 vollständig fusionieren.

Henri Schneeberger ist von 1971 bis 1989 Direktor der FAG und betreut aktiv den Umzug nach Grangeneuve. © Agroscope

Verschiedene Personen folgen an der Spitze der Forschungsanstalt aufeinander. Henri Schneeberger ist seit 1971 Direktor der Anstalt und begleitet aktiv die Planung sowie den Umzug der Institution nach Grangeneuve. Jacques Morel tritt 1989 dessen Nachfolge an und übergibt 1994 den Stab an Danielle Gagnaux-Morel, die die Anstalt bis 2005 leitet. Dann wird Michael Gysi Leiter der Anstalt und behält diese Funktion bis 2013, wonach er schliesslich die Zügel der zentralisierten Organisation Agroscope übernimmt.

Seit 2017 gehören zwei Kompetenzbereiche sowie ein strategischer Forschungsbereich zum Standort Posieux. © Agroscope (2018)

Ab 2017 strukturiert Agroscope seine Aktivitäten neu in drei praxisorientierten 'Kompetenzbereichen für Forschungstechnologie und Wissensaustausch' sowie sieben 'strategischen Forschungsbereichen', die mit der Entwicklung wissenschaftlichen Know-Hows betraut sind. Gegenwärtig sind zwei Kompetenzbereiche in Posieux angesiedelt: 'Tiere und tierische Produkte' und 'Methodenentwicklung und Analytik'. Hinzu kommt der strategische Forschungsbereich 'Produktionssysteme Tiere und Tiergesundheit'.

Reckenholz

From Control Station to National Centre for Agroecology: History of the Agricultural Research Institute Zurich-Reckenholz 1878-2003.

Founding of the First Swiss Federal Control Station

Swiss Federal Control Station at the Polytechnic in Zurich

With the new Federal Constitution of 1848, a modern welfare state slowly developed in Switzerland. Gradually, the realisation dawned that the federal government would have to provide increasing financial support for teaching institutions and experimental stations. In 1853, the canton of Zurich opened its Arable Farming School in Stickhof (Zurich), whilst the canton of Bern followed suit in 1860 at Rütti (Zollikofen). A cantonal chemical control station was affiliated with the Rütti school in 1865. The opening in 1871 of the Agriculture department at the Swiss Federal Polytechnic in Zurich – the present-day Swiss Federal Institute of Technology, Zurich (ETHZ) – marked a milestone in the development of agricultural education and experimental research.

Alpine Experimental Station on the Fürstenalp above Trimmis (Graubünden canton), 1884-1931

The first Swiss federal control station was established in January 1878 on the initiative of Friedrich Gottlieb Stebler (1842-1935) as a response to the shortcomings prevailing in the agricultural inputs trade. Stebler had set up a private seed control station in Bern back in 1875. In its issue of 2 February 1878, the Bernische Blätter für Landwirthschaft, a local agricultural newspaper, reported that “[the] Federal resolution [of] 17 March 1877 has created an agency for agricultural research in the Agriculture and Forestry Department of the Swiss Federal Polytechnic. Conducted under the supervision of the Swiss School Council, the organisation of this new institute, which comprises a seed control station and an agrochemical testing station, has now concluded. The seed control station has already commenced its work (1 January 1878); the agrochemical station will be opened on 15 March.”

The Period at the Zurich Polytechnic (1878-1914)

Versuchsfeld Polytechnikum Zürich

Stebler was appointed the first Head of the Schweizerische Samenuntersuchungs- und Versuchsanstalt (=’Swiss Seed Research and Experimental Institute’), whilst Ernst August Grete (1848-1919) headed the Schweizerische agrikulturchemische Untersuchungsanstalt (=’Swiss Agrochemical Research Institute’). Initially, both research stations were subordinate to the Swiss School Council. In 1898 they were detached from the Polytechnic and placed under the authority of the Swiss Federal Department of Agriculture as independent institutes. For the first few years, both institutes were housed in the attic of the Agriculture Department of the ETH Zurich. In 1886, they moved into the right wing of the newly constructed Chemistry Building.

To begin with, the heads of both institutes handled their respective workloads as virtual one-man operations, but staff numbers soon grew. In particular, the Seed Control Station, skilfully and successfully run for 42 years by its founder,

Stebler, developed into an institute with a worldwide reputation. Stebler's seminal works on forage production garnered him recognition and esteem far beyond the borders of Switzerland.

In numerous presentations and courses, Stebler and Grete encouraged farmers to purchase agricultural inputs jointly. In this way, not only were cost savings achieved, but also – thanks to the inspection process – the purchase of goods of impeccable quality was guaranteed. Thus, Swiss agricultural control stations made an essential contribution to the establishment of the agricultural cooperatives.

Taken by Surprise by the First World War (1914-1918)

Agricultural Experimental Station Oerlikon, 1915

The Swiss Confederation had purchased a plot of land on Birchstrasse in Zurich-Oerlikon In 1908, with the aim of establishing a new experimental field for the two stations. The long-awaited new building was erected on part of this site between 1912-14, and was ready for occupation at the end of May 1914.

The outbreak of the First World War on 1 August 1914 caught Switzerland completely unprepared. What's more, inadequate domestic food production made the situation even worse. At this time, Switzerland was importing 85 per cent of its grain requirement. Although the Schweizerische Samenuntersuchungs- und Versuchsanstalt in Lausanne had begun initial breeding work back in 1899, efforts to encourage grain cultivation were only just beginning. At the behest of the Department of Agriculture, therefore, breeding work on landraces was also initiated in Zurich-Oerlikon.

At the same time that cereal breeding was being organised, however, the foundations for seed production needed to be laid. Initially, individual 'seed breeders' were trained in the multiplication of seed; later, breeding associations were created. These associations eventually led to the establishment of seed-breeding cooperatives. The first trials with potato and fodder-beet varieties were set up shortly before and during World War I.

Expansion of Experimental Activity (1919-1938)

Convertible greenhouse for container-growing trials in Zurich-Oerlikon

On 1 January 1920, the Lausanne and Zurich-Oerlikon institutes were combined into the Swiss Federal Agricultural Experimental Station Zurich-Oerlikon. In the years that followed, the inspection of agricultural inputs absorbed the lion's share of the workforce and funds. Impetus was given to the development of new, more efficient control measures with the aim of coping with the flood of new inputs and the growing problems of the sector.

At the time, potato varieties were in a huge muddle. In partnership with the Association of Swiss Experimental Stations and Distributive Agencies for Seed Potatoes (VSVVS; founded in 1925) potato-growing trials were conducted that enabled the varieties to be 'straightened out'. It was at this time that the significance of viral diseases for potato cultivation was first recognised, and the production of seed potatoes launched as a response.

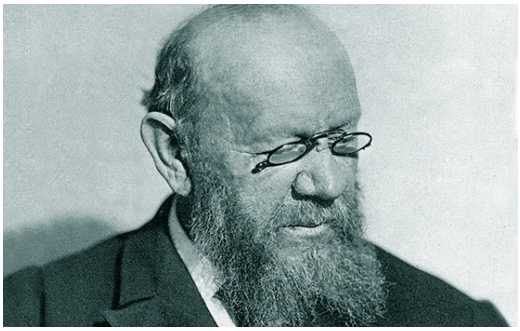
Whilst cereal cultivation initially created "refined landraces", the aim now was to improve specific traits of these breeds. An attempt was made to enrich the genotype of native varieties via crossing with foreign varieties, thereby achieving better standing ability and a higher yield; later, breeding for good baking quality also gained in importance. The systematic variety-testing of maize began with high hopes. Maize breeding was commenced inter alia according to the 'inbreeding and crossing' method.

Old long-stem wheat varieties

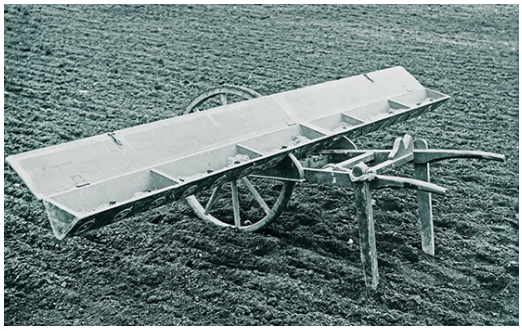
The increase in arable farming was also associated with problems, leading to the emergence of new plant diseases, previously almost-unknown pests, and new weed problems. Plant protection developed into a separate, very important ancillary discipline of agriculture.

An important focus of these years was the search for new methods for determining the quantity of plant-available nutrients in the soil, in order to improve the basis for advice on fertiliser application. To this end, a simple convertible greenhouse for container-growing trials and a lysimeter facility were erected near the Zurich-Oerlikon Experimental Station in 1922.

Founding of the Swiss Grassland Society (AGFF) (1934)



T. Wahlen



The AGFF was founded in 1934 in Bern, based on an idea advocated by Friedrich T. Wahlen. The aim was for all groups with an interest in forage production to join the new organisation, so that solutions to quality problems could be worked out in close cooperation with the agricultural schools and research institutions, and implemented in practice. The inventory from 1921 to 2009 documents the extensive trials and research projects conducted in the sphere of forage production, and the efforts made towards knowledge transfer via the bulletins, forage-production booklets, pamphlets and off-prints published by the AGFF. The systematic cooperation between science and agricultural practice that is characteristic of agricultural development is superbly documented.

The inventory can be downloaded as a pdf here, and is also contained in the "Quellen zur Agrargeschichte" (= "Records of Rural History") database of the "Archives of Rural History", www.agrararchiv.ch.

The documents are housed on Agroscope's Reckenholz site, and may be consulted by arrangement with the Managing Director of the German-speaking Swiss section of the AGFF, Dr. W. Kessler.

Under the Banner of the Wahlen Plan (1939-1945)

In an effort to learn from past mistakes, there was a rapid reaction to the worsening political situation in 1930s Europe. Precautionary wartime measures were initiated in good time. Friedrich Traugott Wahlen, Head of the Zurich-Oerlikon Experimental Station since 1929, took over the reins of the 'Agricultural Production and Household Management' section of the Swiss Federal War Food Board. As the driving force behind the Anbauschlacht or Anbauwerk – the programme for increasing Swiss wartime food production – from 1940 to 1945, Wahlen achieved an almost unprecedented popularity with the Swiss public.

With the outbreak of the war, the Zurich-Oerlikon Experimental Station placed itself chiefly at the service of the Anbauwerk (usually referred to as the 'Wahlen Plan' in English). In the 'Report on the Activity of the Swiss Federal Agricultural Research Station Zurich-Oerlikon from 1938 to 1942', Wahlen praises the research station's role in the historically noteworthy Anbauwerk: "The reporter would also like to take this opportunity to thank his staff for the numerous suggestions

and the assistance that stood him in good stead in the organisation and implementation of the Anbauwerk, and which to a large extent helped to ensure the latter's success."

Technological Innovation (1946-1960)

I n the post-war years, few decision-makers in the agricultural sector doubted the magnificence and efficiency of the technical achievements that characterised this era. The Anbauschlacht or Wahlen Plan had lasting consequences for Swiss agricultural policy. In the shadow of the Cold War shaping the political situation in Europe, Switzerland continued to strive for an appropriate degree of self-sufficiency, aiming to devote at least 300,000 hectares to field crops.

Agricultural-input inspection tasks and informational and advisory activity – mainly on fertiliser-application and plant-protection issues – continued to lay claim to a sizeable chunk of the human and monetary resources and facilities of the research stations. From 1953, Zurich-Oerlikon began publishing its own in-house agricultural journal, Mitteilungen für die Schweizerische Landwirtschaft.

In the sphere of potato production, the main focus was on producing healthy seed potatoes. The Zürich-Oerlikon and Lausanne research stations made their first major breakthrough in cereal breeding with 'Probus', a winter-wheat cultivar. The first domestic maize hybrid in the Swiss standard range, 'ORLA 266', was adopted in 1955. In the same year, breeding work began with forage plants, and the 'Standard Mixtures for Forage Production' was published for the first time.

A Period of Radical Change (1961-1996)

Four generations of Directors at the 100-year celebrations of 30 June 1978: Friedrich Traugott Wahlen, Rudolf Koblet, Rudolf Salzmann and Alfred Brönnimann

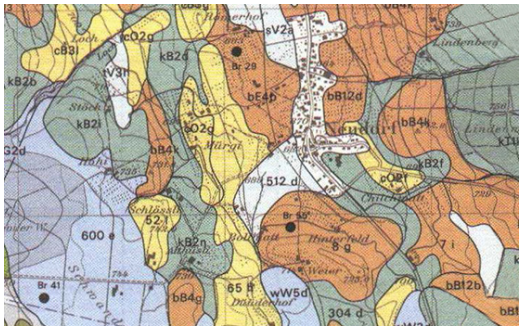
In the 1960s, there was growing recognition that further increases in productivity, higher incomes and improved competitiveness in the agricultural sector were dependent on scientific foundations provided by research and development work. To this end, a total of CHF 268 million was invested in the expansion of the agricultural research stations between 1963 and 1975. At the same time, the experimental stations were renamed "research stations".

Planning commenced in 1959 for new buildings on the grounds of the Reckenholz estate on the northern border of Zurich-Affoltern, land which the Swiss Confederation had acquired in 1943. The new buildings were eventually occupied in 1968-69. Research activity was further expanded thanks to a considerable increase in staff numbers. Electronic data processing was introduced in several stages. The purchase of two farms in Ellighausen (canton of Thurgau) in 1970 and 1972 allowed the establishment of 37 hectares of new experimental land. A further 30 hectares in Oensingen (canton of Solothurn) have been leased on a long-term basis since 1983.

Construction of the Reckenholz buildings in in Zurich-Affoltern, 1967

Research increasingly focused on developing environmentally friendly production methods and improving the quality of the harvested crop. Quality seed and planting material for cereals, maize, potatoes, other field crops and forage plants was heavily promoted. New native and foreign varieties were tested under Swiss growing conditions, and successful ones were published in the appropriate variety lists. An experimental network set up in conjunction with the Changins Research Station with the assistance of the Schweizerischer Saatzuchtverband (=Swiss Seed-Breeders Association) also supported this work. A large number

of in-some-cases very successful new varieties of winter and summer wheat, spelt, maize, clover and grass species bear witness to the efficient breeding work conducted over these decades. Since the 1990s, bioengineering methods such as molecular markers have also been used.



In addition to chemical control approaches, biological approaches to plant protection became increasingly important. Terms such as “critical infestation rate” and “economic damage threshold” became key concepts. The new plant-protection ordinances required the biological testing of compounds and regulated the expansion of warning and alert services. The ‘Guidelines for Fertiliser Application in Arable and Forage Crops’ (GRUDAF) facilitated the provision of advice on fertiliser application, as did soil maps published by the Soil-Mapping Service. Produced to a scale of 1:25,000, these maps contain notes regarding suitability for cultivation, irrigation requirements, and soil resilience to liquid fertilisers. In connection with the expansion of the agricultural research stations, a ‘forage production’ group was created in the 1960s to deal with issues of natural and ley pasture farming.

Focus on Plant Breeding, Agroecology and the Environment (1996 onwards)

Since the mid-1980s, reduced funding has generally led to staff cutbacks and noticeable reductions in service provision. Further decisions to cut spending made a reorganisation of agricultural research unavoidable. As part of this reorganisation, the Swiss Federal Research Station for Agroecology and Agriculture (FAL) was created in 1996 as the national centre for agroecology from the merger of the former Federal Research Station for Agricultural Plant Development in Zurich-Reckenholz (FAP) and the Federal Research Station for Agricultural Chemistry and Environmental Hygiene in Liebefeld-Bern (FAC). The research farm in Liebefeld was run as the Institute of Environmental Protection and Agriculture (IUL), then relocated to Reckenholz on 1 January 2000, where it was dissolved as an organisational unit. For the employees of both research stations, the new reorganisation meant an in-some-cases painful leavetaking from their place of work (in the case of the IUL) or from activities in which both research stations had earned themselves a name both in Switzerland and abroad over many decades.

Because intensive use of the soil was characteristic of agricultural practice at this time, the notion of soil conservation advocated in research conducted at the new institute in Zurich-Reckenholz gained in significance. The change of name of the two merged institutes to ‘Swiss Federal Research Station for Agroecology and Agriculture’ stressed the importance of the ecological aspect. The FAL’s motto, “Research for agriculture and nature”, underscored how the protection and sustainable use of natural resources formed a unit, and were of key importance for the research station’s work.

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The reform continued in 2016 with the simplification of Agroscope’s structure. On 1 January 2017, the four institutes and 19 research divisions were abolished. Agroscope’s research services and enforcement tasks are now the responsibility of 10 newly created units – three competence divisions for research technology and knowledge exchange, and seven strategic research divisions. This brings operational management and staff closer together, with the aim of fulfilling the research organisation’s key tasks for the agriculture and food sector with greater efficiency and flexibility, and defining a clear service portfolio.

Reckenholz became the main "Agroscope East" site, with two of the ten new units – the "Plant Breeding" and "Agroecology and Environment" research divisions – headquartered there

Tänikon

Tänikon (Convent, Manor System, Research Station)

Founded in 789, Tänikon ('Tanninchova') is the earliest documented village in the municipality of Aadorf. Initially belonging to the Abbey of St. Gall, it then passed to the Counts of Rapperswil and the Lords of Bichelsee.

Founded no later than 1249, the Convent must have been a stately complex before the Reformation circa 1520. Both the convent church (whose roof truss dates back to 1362, making it one of the oldest surviving buildings in Thurgau canton) and the Refental (1508) predate it. Convent life was all but destroyed in the turbulence of the Reformation (1525-1550). In the 17th century, the resurrected convent experienced a major blossoming, linked with brisk construction activity: the Prelate's House (1616), Abbesses' House (1678), and Lilienthal (1640). The splendid glass panes in the cloister are testimony to the aesthetic sense of the abbesses. Up until the political upheaval of 1798, the prioresses in Aadorf, Ettenhausen and Guntershausen-Maischhausen exercised lower-court jurisdiction. The legal relationship between these judicial municipalities and the convent is laid down in Offnungen, i.e. village rights. Come the early 19th century, many leading Thurgovians were of the opinion that the convents were rich, and "strangers to any charitable work". After implementing various measures such as the deployment of state cloister administrators and the authorisation or prohibition of the admission of novices, in 1848 the Thurgovian Great Council resolved inter alia to abolish the Tänikon Cistercian convent. It was only in 1869 that the expelled nuns joined with the likewise displaced sisters of the Kalchrain and Feldbach convents to form the Mariastern-Gwiggen successive cloister in the municipality of Hohenweiler (Vorarlberg), which exists to this day.

After the abolition of the cloisters, the church with its cemetery and the parish house with its grounds and endowment funds reverted to the parish of Tänikon. Nina von Planta from Samaden (canton of Grisons) purchased the convent estate in1850. In addition to the manor system, there was an earthenware factory that manufactured bricks and drainage pipes from 1857 to 1918. The final owner of the manor from 1936 until its sale to the Swiss Confederation in 1968 was Emma Zuber-Schmid. The Swiss Federal Research Station for Agricultural Economics and Engineering (FAT) commenced its work on 1 April 1969; Its directors were Dr. Paul Faessler (1969-1981) and Prof. Dr. Walter Meier (from 1981).

Church

The church's classical appearance is essentially a result of radical reconstruction work between 1829-1831. Bernard of Clairvaux (church festival on 20 August, or on the Sunday following that date) is the patron saint of the church. Of note is the early Romantic organ from the convent era (1835; restored in 1975). From 2001-2003 the parish carried

out extensive renovations to the truss roof and church interior, focusing in particular on the stucco ceiling, with substantial assistance from the federal and cantonal governments, the Catholic Church, and the municipality of Aadorf. The parish house was erected by the parish in 1967, in place of the old building dating from 1853.

Convent coat of arms: White fleur-de-lis on a blue background

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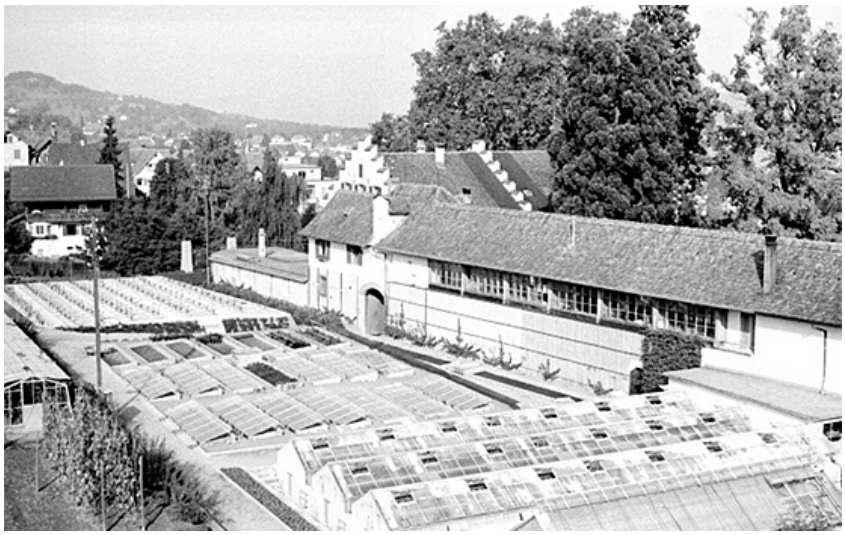
One unit, 'Competitiveness and System Evaluation', is based in Tänikon.

Timeline

789	First documented reference of Tänikon ('Villa Tanninchova')
1249	Founding of Tänikon convent. Convent coat of arms: Tripartite white fleur-de-lis on a blue background. Alternative name of convent since circa 1614: 'Lilienthal' (a reference to the fleur-de-lis). Patron saint of church: St. Bernard of Clairvaux (church festival on 20 August)
1320	Ettenhausen comes to the Tänikon cloister
1362	Church: Erection of the still-extant roof truss
1413	Cloister purchases Aadorf from the cloister of St. Gall
1508	Construction of the Refental (former refectory)
1509	Purchase of Guntershausen gives cloister lower-court jurisdiction in Aadorf, Ettenhausen and Guntershausen.
1525-1550	The turmoil of the Reformation comes close to obliterating monastic life
1617	Prelate's House built as guest building of the Abbots of Wettingen cloister
1640	Construction of Lilienthal – run as an inn until 1961

1663	Church: Old flat ceiling replaced with vaulted ceiling
1678	Construction of the Abbess' House as a building befitting of the mother superior
1798	Convent loses its court jurisdiction over Aadorf, Ettenhausen and Guntershausen
1831	A complete renovation of the church gives it its present-day classical appearance
1835	Installation of the early-Romantic organ (restored in 1975)
1838	Construction of convent barn (last of the convent buildings)
1848	Grand Council of Thurgau abolishes Cistercian convent of Tänikon
1850	Tänikon estate purchased by Lady Nina von Planta of Samaden (canton of Grisons)
1857-1918	Industrial earthenware factory (bricks, pipes, etc.)
1883	Indoor stabling is built crossways onto the convent barn
1936	Tänikon estate purchased by Emma Zuber-Schmid
1963	Renovation of church
1967	Reconstruction of rectory
1968	Purchase by the Swiss federal government
1969	The Swiss Federal Research Station for Agricultural Economics and Engineering (FAT) takes up its duties on 1 April 1969. Directors: Dr. Paul Faessler (1969-1981), Prof. Dr. Walter Meier (1981-2004)
1976	Occupancy of the new buildings in the historic zone: office buildings, staff restaurant and guest wing
1981	Official inauguration of the new buildings and restored historic convent buildings
1981	Opening of 'Agrotechnorama' (exhibition on the development of agricultural engineering)
1989	'1200 years of Tänikon' jubilee year
2001-2003	Renovation of roof truss and church interior

Wädenswil



After several decades of private ownership, the "Swiss-German Experimental Station for Fruit Production, Viticulture and Horticulture" was established in the castle in 1890. Its first director was Hermann Müller-Thurgau, who subsequently rose to fame, and is considered the most important pioneer of applied botany. He created the first scientific vine crossings, including breeding the Riesling x Sylvaner vine, from which the resulting white wine took its name. In the 1990s, genetic analyses showed that Müller-Thurgau had made an error. Instead of Sylvaner, he actually crossed the Riesling vine with Madeleine Royale.

In the following 110 years up until today the research station, renamed the "Swiss Federal Research Institute" in 1968, developed into a world-renowned institution.

History of Wädenswil Castle

Article by Sybille Zollinger from the 12 August 2000 issue of the *Zürichsee-Zeitung*:

Wädenswil Castle: Once the seat of the Landvögte (bailiffs or provincial governors), today a bastion of cutting-edge research. Historian Peter Ziegler devotes 75 pages of his book to the colourful history of the Castle.

Wädenswil Castle is not just a tradition-steeped research institute for fruit production, viticulture and horticulture; walking through the facility, you breathe in the scent of history that contrasts sharply with the future-oriented research work conducted behind the doors of the old buildings.

Peter Ziegler traces this history in his book Schloss Wädenswil - Vom Sitz der Landvögte zur Eidgenössischen Forschungsanstalt ('Schloss Wädenswil – from Seat of the Bailiffs to Swiss Federal Research Station'). A historian, Ziegler devotes the first, most comprehensive section of his book to the origins of the castle and its bailiff residents. The second section, which includes an art-history perspective, deals with the architectural history of the castle. The third and final part documents the origin and development of the research station, and concludes with a look into the future.

250 Years as a Bailiwick

In the 16th century, the Council of Zurich managed to consolidate its position on the upper left bank of Lake Zurich at the expense of the Order of St. John. Zurich acquired the commandery of Wädenswil and annexed it as a bailiwick to the city-state. Since Schwyz and Glarus feared that Wädenswil could serve as a base for military action, the castle was razed and another one built close to the village in its stead. For 250 years, the bailiffs ruled from here. The bailiwick of Wädenswill was highly popular with upper-class contenders for power from Zurich.

Wädenswil as an Elite Training Centre

Wändenswil was said to be a career-launcher, promising wealth to and conferring prestige on its inhabitants. It was also easy to reach by boat from Zurich. Last but not least, Wedenschwyler were reputed to be a frolicsome lot.

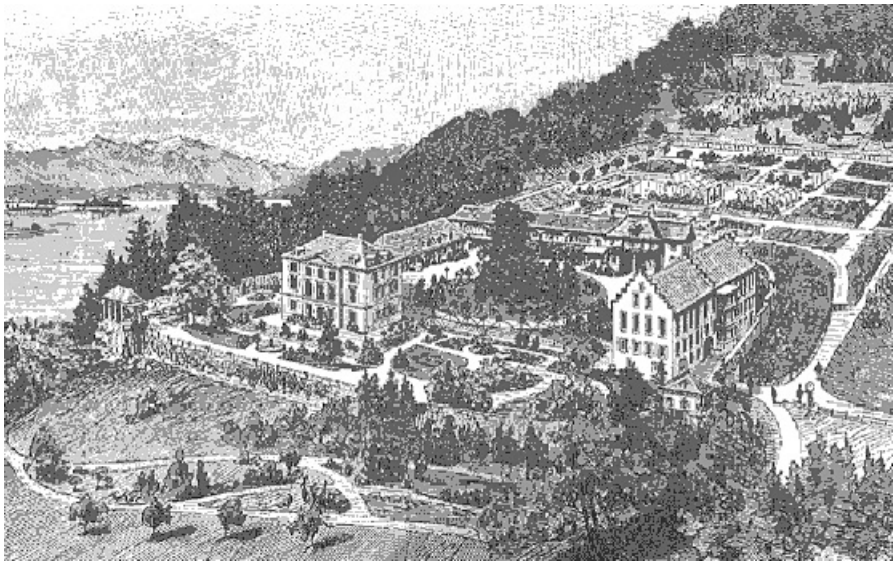
After the 1798 Helvetic Revolution and the end of the bailiwick, the castle was declared a national asset and leased to the municipality of Wädenswil. For two years it housed a boy's institute, a project which eventually foundered. The year 1804 marked a fateful event in the castle's history, when Wädenswil firebrands torched the main building, and the splendid structure burned down completely. The event had a signal effect for the Bocken War, a peasant uprising against the conservative Zurich government. In 1816, the distinguished Zurich architect Conrad Stadler commenced construction of the classicist-style castle that stands today.

The Research Station Comes into Being

In 1890 the 'Swiss-German Experimental Station for Fruit Production, Viticulture and Horticulture' was established in the castle, which had been in private ownership for several decades at this point. The first director of the research station, Hermann Müller-Thurgau, subsequently became famous as the main pioneer of applied botany. He created the first scientific vine crossings, including the breeding of the Riesling x Sylvaner grape variety, which gave its name to the white wine pressed from it. In the 1990s, genetic analyses showed that Müller-Thurgau had in fact made a mistake; he had crossed the Riesling vine with the Royal Magdalener vine, instead of with the Sylvaner.

Over the following 110 years right up to the present, the research station – rechristened the "Swiss Federal Research Institute" in 1968 – has developed into an institution with a global reputation. Not only is Ziegler's book a meticulous description of 500 years of castle history, approached from different perspectives, but he succeeds time and again in contextualising this description in regional and national events in a highly stimulating manner – making the book a worthwhile read not just for castle-lovers, but for the wider public.

Schloss Wädenswil by Peter Ziegler was published in August 2000. It costs CHF 36, and can be ordered from the publishers, Verlag Stutz Druck AG, CH-8820 Wädenswil, Switzerland, www.stutz-druck.ch



Historische Karte Schloss Wädenswil; Areal Schlossberg, mit Schloss und Schlossmauern

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