November 2021

agroscope

Agroscope good food, healthy environment

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Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
Agroscope

Plant Production Research

Agroscope contributes to profitable and sustainable plant production with new varieties, mixed crops or variety mixtures.

Dear Readers,

What does Swiss wine have to do with the Asian brown marmorated stink bug? In 2000 this insect was accidentally introduced from Asia, and is causing major damage here in Switzerland. On p. 6 you'll discover whether the bugs also have an impact on the taste of the grape must and wine. The article underscores how global interconnectedness can affect our local food production.

Swiss producers increasingly find themselves facing these and similar challenges. Our research contributes to the discovery of possible solutions in various subject areas. Positive leverage effects for the benefit of a sustainable agriculture and food sector begin in different places.

Our study of biochar, for instance, shows that it can help protect the climate and the ecosystem (p. 16). The variety mixtures we have developed, including several winter wheat varieties, make a positive contribution here. They work according to the principle of greater sustainability through diversity. Higher genetic diversity in the field, for example, reduces the danger of pathogens spreading unchecked (p. 18).

We investigate several topics concerning livestock as an element of a sustainable agriculture and food sector. One study shows e.g. that targeted incentives could further reduce antibiotic use in veterinary medicine (p. 22). At the same time, a high animal-welfare standard comes at a price: according to another of our studies, the additional animal welfare costs of cattle- and pig-fattening farms are not fully covered at present (p. 20).

Working together, creating synergies and seeing the bigger picture are important for coping with current and future challenges.
Our new laboratory building in Posieux will also make a positive contribution here (p. 24). I look forward to this development and wish you all fascinating read!

Joël Bérard
Head of Research Division Animal Production Systems and Animal Health

Agroscope
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Agroscope is the Swiss Centre of Excellence for Agricultural Research, and is affiliated with the Federal Office for Agriculture (FOAG). Agroscope makes an important contribution to a sustainable agriculture and food sector as well as to an intact environment, thereby contributing to an improved quality of life.

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3 Dec 2021, Agroscope Tänikon

2nd Food Sector Innovation Forum – Smart Solutions for Sustainable Foods

11 Jan 2022, Löwenberg Centre, Murten

9th National Field Crops Conference

Joint meeting of Agridea, Agroscope, HAFL, FiBL, Forum Ackerbau, Beratungsforum Schweiz BFS, Groupe Culture Romandie, Schweizerische Fachstelle für Zuckerrübenbau SFZ, swissgranum, swisspatat

27 Jan 2022, Agroscope Reckenholz and online

9th Agroscope Sustainability Conference

31 Mar 2022, Agroscope, Swiss National Stud Farm SNSF

Annual Conference – Swiss Equine Research Network

All Agroscope events that are open to the public are advertised on our website.

New Competence Centre for Raw-Milk Products

Agroscope and the canton of Fribourg are together founding the National Competence Centre for Raw-Milk Products in close collaboration with the milk and cheese sector. Joint research projects will lead to new synergies, increase the value-added of raw-milk products, and ensure that no increased risks are associated with the consumption of said products.

Since the beginning of the year, together with various cantons and in close collaboration with the relevant sectors, Agroscope has opened up six new experimental stations focusing on specific agricultural subject areas. The sixth and latest, launched on 30 August in conjunction with the canton of Fribourg and Grangeneuve Agricultural Institute, is concerned with products made from raw milk – in particular, cheese.

Rediscovering traditional products

Gruyère AOP, Appenzeller, Emmentaler AOP, Tête de Moine AOP – numerous Swiss cheeses are made from raw milk. Tasty and healthy on account of their rich microbiota, they must also meet the same food-safety requirements as cheese made from pasteurised milk. "A better understanding of the microbial diversity of raw milk and the products made from it is crucial to enable us to maximise the benefits of this microbiota and minimise the risks associated with it", declares Fabian Wahl, Head of the 'Food Microbial Systems' Research Division at Agroscope. The initial experiments conducted at the Competence Centre will lead in particular to a better understanding of the microbiota of raw milk and raw-milk cheese by comparing the analyses conducted with classic microbiology with the results of modern molecular biology. At the same time, they will contribute to a better understanding of the influence of different heat treatments on the whey proteins – which have health benefits for humans – with a view to their increasing use in foods in future.

An important partnership for the entire sector

The new Competence Centre, which will conduct its research projects primarily in Grangeneuve, Posieux and Liebefeld, is the result of a successful partnership with the canton of Fribourg and with agricultural practice. The sector is involved in the activities of the Competence Centre through a so-called external support group. The various milk and cheese organisations, the CASEi advice platform and the Agridea extension centres are represented in the support group. In this way, new knowledge can be generated with all the stakeholders and made use of directly in practice. "Thanks to the support of the partners" says Pascal Toffel, Director of the Grangeneuve Agricultural Institute, "this Centre will contribute to ensuring the future of the sector and guaranteeing

Representatives of the partner institutions of the Competence Centre for Raw-Milk Products. From left to right: Didier Castella (canton of Fribourg), Fabian Wahl (Agroscope), Eva Reinhard (Agroscope), Pascal Toffel (Grangeneuve Agricultural Institute).

valuable communication between stakeholders, from milk producers to the retailer all to way to students, the technical advisory centres, processors and researchers."

Science and modern infrastructure

The agreement between Agroscope and the canton of Fribourg is for eight years, with an option for extension until 2032. Agroscope is responsible for the design, execution and evaluation of the research projects, and provides the scientific and technical staff. The canton of Fribourg furnishes the necessary experimental infrastructure and additional technicians, and provides for knowledge transfer in education and training via the Grangeneuve Agricultural Institute. The Grangeneuve farm's new farm building, which will be inaugurated in September, will be an essential element of the Competence Centre. The Centre will benefit in the long term from further ultramodern infrastructure from the canton of Fribourg (the new building housing Liebefeld Kulturen AG, a public-private partnership between Agroscope and the milk and cheese sector), and in the medium-term from a new dairy school. —

Further information on the Experimental Stations

Influence of the Brown Marmorated Stink Bug on Must and Wine Taste

Native to Asia, the invasive brown marmorated stink bug (*Halyomorpha halys*) was accidentally introduced into Switzerland in the early 2000s. A recent study by Agroscope analyses its influence on the aroma and taste of grape must and wine.

Patrik Kehrli, Johannes Rösti, Fabrice Lorenzini, Pascale Deneulin and Christian Linder

Merlot harvest before crushing, contaminated with *H. halys* nymphs and adults.

Sensory analysis of red wine.

Highly polyphagous, the brown marmorated stink bug (*Halyomorpha halys*) is found in vineyards at all stages of its development. A recent study by Agroscope analyses its influence on the aroma and taste of grape must and wine. Freshly pressed must from Chardonnay and Merlot grapes was artificially contaminated with 3–10 *H. Halys* individuals/kg grapes. The must differed in taste and aroma from the non-contaminated control must, and was described as vegetal and woody. After bottling, the wines mixed with 0 to 10 brown marmorated stink bugs per kg grapes could no longer be distinguished from one another; their sensory profiles were practically identical.

Off-flavours in musts, but not in wines

One year after bottling, winemakers were invited to a tasting, where they did not judge the wines contaminated with brown marmorated stink bugs worse than the control wines. It therefore seems that the molecules responsible for the off-flavours in the musts largely volatilise during fermentation, and no longer influence the taste of the wines. Nevertheless, we recommend monitoring the development of the brown marmorated stink bug in vineyards in order to anticipate potential quantitative and qualitative problems at harvest.

Scientific article in Vitis, Journal of Grapevine Research, Vol. 60, No.1, 2021, 43–50.

Conclusions

- Contamination of the harvest by brown marmorated stink bugs can alter the quality of grape juices and musts.
- The off-taste disappears during the winemaking process, and there is little risk of influencing the taste of the finished wines.
- There is little risk of contamination of the harvest by *H. halys*, since the bugs are highly mobile and most likely escape during harvest. Moreover, harvesters can shake infested clusters and winegrowers can sort through heavily contaminated grapes on a sorting table.
- It does not appear necessary to develop strategies for controlling this bug. Nevertheless, winegrowers, and in particular table-grape and grape-juice producers, should follow *H. halys* population dynamics in their vineyards in order to anticipate possible quantitative and qualitative problems at harvest.

Rice Cultivation Promotes Biodiversity

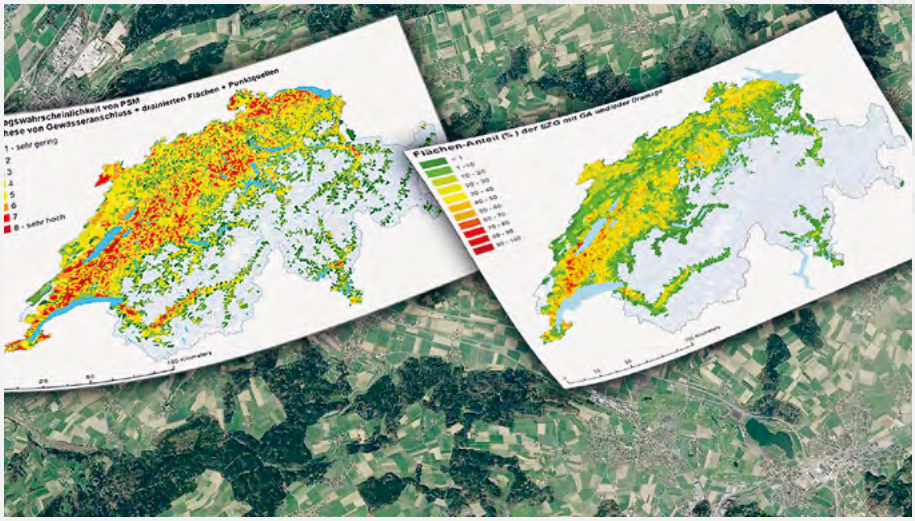
Cultivating rice in flooded fields opens up new economic prospects for the Swiss agricultural sector and creates habitats for endangered species.

Fast to Compact, Slow to Recover

Agroscope experts are conducting long-term trials to learn how high the natural regeneration potential of the soil is, how quickly a soil recovers after compaction, and what processes are particularly important here.

Bird-friendly Vineyard Protection

There are various methods for protecting grapes and fruit trees from birds without endangering the animals in these habitats.
A fact sheet introduces these wildlife-friendly measures.



Risk Maps for Plant-Protection Product Input into Surface Waters

What are the possible routes of entry of plant-protection products into surface waters? Agroscope shows the potential input risks in terms of tile drainage, runoff and agricultural point sources for over 20,000 catchment areas.

More Cherries and Bigger Apples from Optimal Pollination

An Agroscope report shows how certain crops in Switzerland can benefit from wild-bee communities with greater species- and individual richness.

Measuring and Optimising Environmental Impacts

Easy-to-use and informative metrics are essential to allow farmers to measure and optimise the environmental impacts of their farming activity for themselves.
The recently launched Agroscope research programme ‘Indicate’ aims to develop these metrics.

Pilot Agrivoltaic Plant Commissioned at Agroscope Conthey

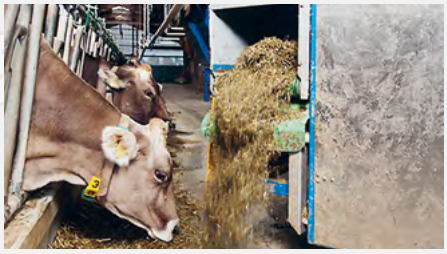
An agrovoltaic pilot project for strawberry and raspberry production is being launched in Conthey in partnership with the Swiss startup Insolight and Romande Energie.

Plant-Protection Product Reduction and Residue Minimisation in Pome Fruits

As part of the Interreg V Project 'Low-Residue Fruit Production', Agroscope analysed the combination of promising strategies together with other organisations from Switzerland and Germany.

What Quantities of Heavy Metals End Up in Agricultural Soils?

Calculations carried out by the Swiss Soil Monitoring Network (NABO) over more than 30 years reveal that fertiliser applications and plant-protection products can lead to excess heavy metals in agricultural soils.



From Manual Labour to the Use of Robots

A survey on the machinery and equipment used shows the great technological diversity found on Swiss farms.

Curbing the Cost of Concentrates

An analysis of accounting data shows that successful dairy farms obtain a higher milk yield from their basic ration.

Increasing Food-Security Challenges Faced by Switzerland

Agroscope conducts an annual analysis of the risks to food supply on behalf of the Swiss Federal Office for Economic Supply FONES. In 2021, a power shortage, seed imports and climate change were addressed as particular risks.

Further information on these topics

“You need the right partners, the will and the knowledge to find solutions”

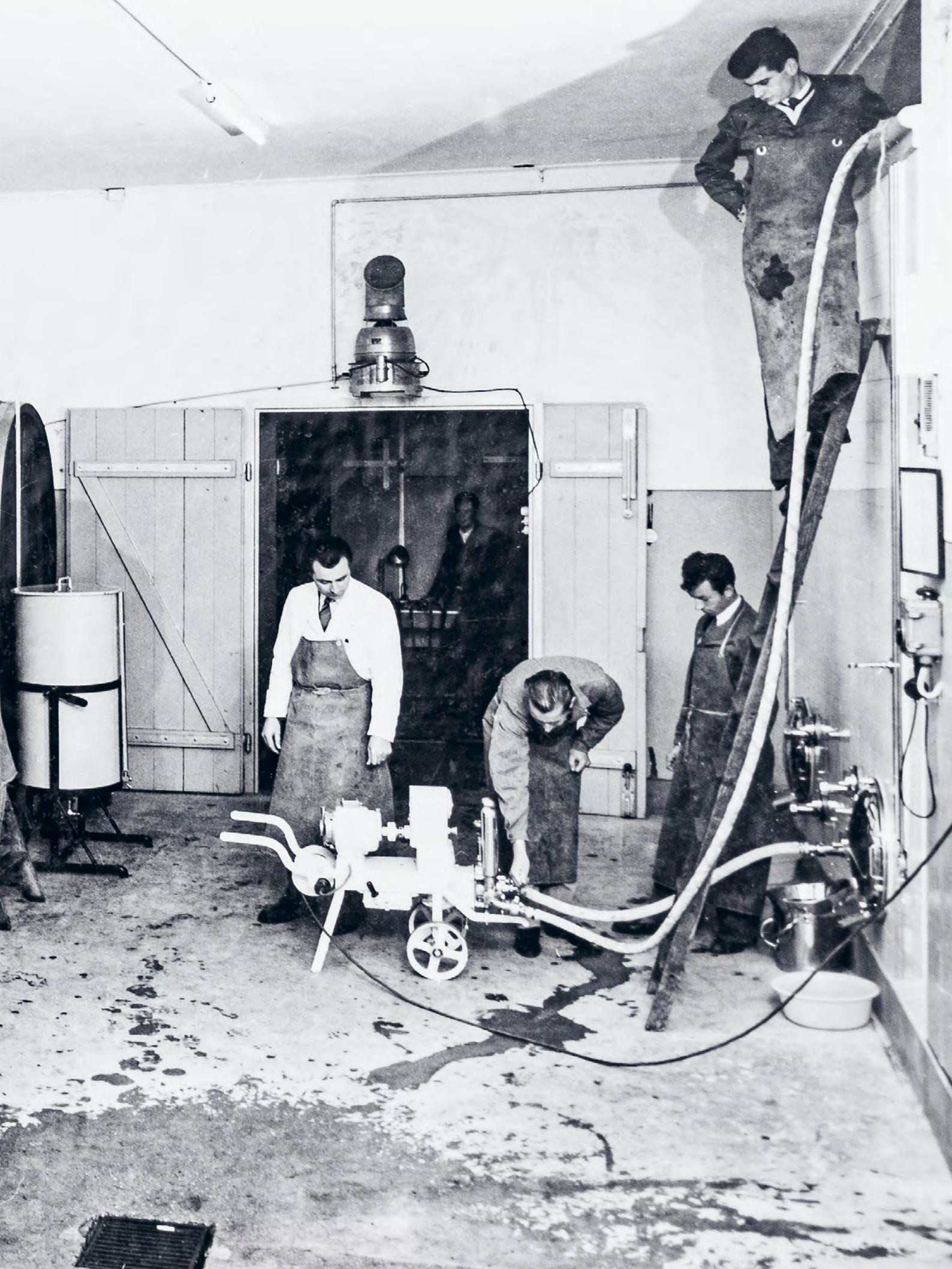
Thomas Steinsberger has been Head of the new Experimental Station for Substance Flows in Sursee since the beginning of 2021. His aim: to work with agricultural practice to find solutions for pressing issues in the field of nutrient efficiency.

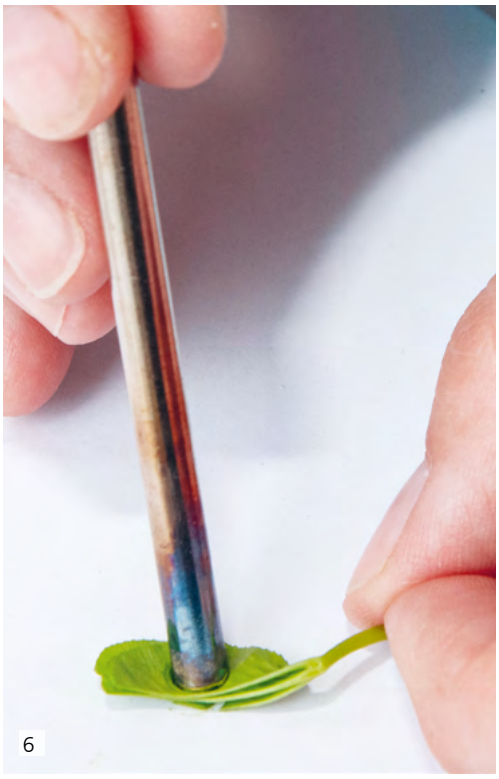
“Twisting paths can also be beautiful”, says Thomas Steinsberger with a meaningful smile. But the Head of the recently founded Experimental Station for Substance Flows in Sursee wants to talk first of all about his current job: “The Experimental Station is a unique project at the interface between practice, research and enforcement.” For him, the co-creation project represents his chance to get things moving, since his goal is to find solutions for pressing issues. “The Experimental Station has the right partners, the necessary will and the relevant knowledge to achieve its goal” he adds confidently. Nevertheless, he also sees stumbling blocks: “No measures taken today can yield results overnight. But communication is certainly also a challenge, to awaken understanding in all those concerned.”

It is the very circuitousness of Thomas Steinsberger’s career path that makes him well equipped for this task. Born in Poland, he was raised in Munich. For almost ten years now, he has called Switzerland his home. His little preschool-aged son is already a huge tractor fan. Steinsberger himself initially wanted to study Geography, but then opted for Geology. Through an internship at the Bavarian State Office for the Environment focused on rock weathering, he wound up at the Eawag (Swiss Federal Institute of Aquatic Science and Technology)/ ETH in Kastanienbaum, canton of Lucerne – for an eight-year stint, first as a Staff Research Scientist, then as a PhD student, and finally as a Postdoc. “It was there that I discovered the fascination of substance flows” Steinsberger explains.

As Steinsberger sees it, the challenges faced by his Experimental Station for Substance Flows are first of all ammonia emissions, which need to be reduced, as well as nutrient losses – ‘nutrient efficiency’ being the magic word. Hence, his keenness to launch as soon as possible a measuring programme for determining nutrient flows and evaluating already-implemented measures, which would enable initial improvements to be carried out. Specifically, for example, Steinsberger wants to set the record straight on farmyard manure. For such tasks, he aims to kick off a dialogue between agriculture, research and society. The experience gained in the twists and turns of his personal career path stand him in good stead for this endeavour. —

1 Old cheese (1990) from Grimentz, Valais canton
2 Examining soil profiles
3 Lab experiment with microalgae





1 Applying farmyard manure using a slurry spreader with trailing hoses
2 Determining polyphenols in red wine | 3 Colorado beetle larva | 4 Cereal seed | 5 Calf rearing
6 Determining hydrogen cyanide content in white clover | 7 Tour of the field trials

Protecting the Climate with Biochar

An Agroscope study commissioned by the Federal Office for Agriculture shows that the use of biochar clearly has potential, yielding benefits for the climate and ecosystems.

Hans-Peter Schmidt, Nikolas Hagemann, Fredy Abächerli, Jens Leifeld, Thomas Bucheli

The use of biochar can improve agricultural soils and benefit the climate.

Biochar as a carbon sink

Around half of the dry matter in plants consists of carbon drawn from the atmosphere via photosynthesis during their growth. If the plant decomposes after it dies, the carbon is released back into the atmosphere in the form of CO_2. To prevent this, the biomass can be pyrolysed, i.e. thermally treated at a minimum temperature of 400 °C in the absence of oxygen. This process converts around 30 – 50 % of the plant carbon into stable molecular structures. Biochar is also produced naturally during vegetation fires. Its mean residence time in soils ranges from 1440 to 14,500 years.

Generating biochar from agriculturally produced biomass removes CO_2 from the atmosphere, and can thus help mitigate climate change. Consistent processing of the residues from agriculture and forestry into biochar could sequester up to 4 million t CO_2eq annually by 2050, thus offsetting 80 % of Switzerland's expected remaining greenhouse-gas emissions.

Higher soil fertility, lower emissions

The traditional terra preta soils of the Amazon region, notable for their high yields, are known for the positive qualities of biochar. Here in Switzerland too, biochar can

be used in agriculture as a soil amendment and carrier matrix for fertilisers as well as a feed supplement, stable litter and slurry additive. Numerous international research studies confirm that biochar increases yield, root mass and microbial activity, builds up soil organic matter and improves water-use efficiency, and can reduce greenhouse gas emissions per hectare by around 30 %. Through these emission reductions alone, biochar could save around 8.6 % of agriculture emissions, and hence around 1.2 % of all greenhouse gas emissions in Switzerland.

In Switzerland, biochar's main function is climate protection

The highest yield increases using pure biochar can be achieved in acidic tropical soils that are poor in soil organic matter. For Switzerland, however, the use of biochar-based fertilisation is recommended. Here, biochar is loaded with organic or mineral fertilisers and introduced into the root zone of plants – a particularly promising approach for achieving yield increases in special crops. The potentially greatest benefits of biochar use in Switzerland are therefore climate protection, the improvement of soil microbiological activity and water availability for the plants, and reduced nitrate leaching.

At present, biochar is mainly used in animal husbandry as a cost-efficient feed additive. Input is therefore for the most part via farmyard manures that are spread primarily on pasture, temporary leys and cereals.

Production from residues must be approved

To date, only untreated wood has been approved in Switzerland as feedstock for biochar. From a climate-protection and bioeconomic perspective, however, high-quality wood from forests should first be utilised as building material in order to replace fossil or energy-intensive materials such as steel, concrete or plastics. Priority should be given to the pyrolysis of secondary materials and non-recyclable biomass. Biochars from non-woody biomass such as straw would also have agronomic benefits, e.g. a higher mineral content and larger macropores, which improve microbial colonisation. The possibility of authorising residues from agricultural and forestry production as feedstock for biochar production should therefore be examined.

Conclusions

- A multitude of international research studies confirm the numerous advantages of biochar and its potential for improving food security and the ecological services of agriculture.
- In Switzerland, biochar can be used primarily for climate protection as well as to reduce nitrate leaching and emissions from livestock farming.
- In addition to wood, residue streams from agricultural and forestry production and from the processing of these products should be authorised as feedstock for biochar.
- To avoid problems with pollutants and ensure sustainability of production, only biochar with the European Biochar Certificate (EBC) should continue to be used in future.

Use only certified biochars

During pyrolysis, organic pollutants are generated in the form of polycyclic aromatic hydrocarbons (PAHs). If pyrolysis is not carried out properly, these PAHs can condense on and in the biochar. The current Swiss certification standards according to the European Biochar Certificate (EBC) must therefore be upheld. —

Crop-Variety Mixtures for Greater Yields and Robustness

Crop variety mixtures can have various benefits, including greater resistance to pathogens as well as yield stability and increased yields.

Samuel E. Wuest, Roland Peter and Pascal A. Niklaus

Higher genetic diversity in the field reduces the risk of pathogens spreading unchecked, since the individual varieties grown have different degrees of susceptibility. According to past experience, the cultivation of variety mixtures, particularly over a large area, has significant potential for reducing plant-protection product use.
In addition, mixtures open up new resistance-breeding possibilities. For example, they could be used to combine more resistance genes on a field instead of expending greater effort to combine them in an individual plant. This could simplify breeding and increase progress with other traits such as yield or quality.

Diversity means greater sustainability

More diversity in agricultural production can make an important contribution to sustainable intensification. Variety mixtures, e.g. of winter wheat, increase genetic diversity in the field and are compatible with mechanised cultivation. One of Agroscope's aims is therefore to develop robust mixtures with market appeal. However, we lack efficient approaches for predicting suitable mixture partners. Developing high-yielding variety mixtures is thus a complex matter, demanding considerable time and effort. Efficient methods for selecting mixture partners that maximise the value-added of variety mixtures are essential.

Forwards into the future with new concepts

For variety mixtures to work, the differences in key agronomic traits of the mixture partners must remain minor in order to prevent production and sales issues. At the same time, the individual mixture partners must be 'specialised' and complement one another, e.g. through differences in soil-nutrient uptake or in terms of their tolerance of biotic or abiotic stress (drought, etc.). Such so-called 'niche differences' are expressed inter alia in differences

Scientific article in Nature Ecology & Evolution 5, 1068–1077, 2021.

Variety mixtures, for example of winter wheat, increase genetic diversity in the field and are compatible with mechanised cultivation

in yield from site to site or year to year. Determining niche differences from variety-testing trials could thus be a game-changer for achieving variety mixtures with greater stability and higher yields. This concept is now to be tested in experiments. Furthermore, the acquired theoretical knowledge is to be increasingly used in practice. In this way, Agroscope hopes to help ensure the more-frequent use of variety mixtures in the future. —

Conclusions

- Differences in key agronomic traits of the mixture partners must remain minor in order to prevent production and sales issues.
- The many ways of combining different varieties in mixtures makes it harder to research, develop and test mixtures. Recently developed methods for determining ideal mixture partners reduce the scope of the problem.
- A successful mixture offers "more than the sum of its individual varieties".
- Mixtures open up new resistance-breeding possibilities. Thus, they could be used e.g. to combine more resistance genes on a field instead of expending greater effort to combine them in an individual plant. This could simplify breeding and increase progress with other traits such as yield or quality.
- Variety mixtures with market appeal lead to resistance to pathogens as well as yield stability and increased yield.

Animal Welfare: Costs on Small Farms not Covered

A higher animal-welfare standard entails higher costs for labour, straw and buildings. A study of beef-cattle and pig-fattening farms shows that on average, the costs are higher than the animal-welfare premium.

Christian Gazzarin, Meier Lara and Franziska Zimmert

Swiss consumers show a keen interest in animal welfare. Despite this, sales of meat products with an animal welfare label such as IP-Suisse have been stagnating for several years now. Several factors could be responsible for this development: in addition to a lack of demand, the question arises on the supply side as to whether it is actually economically worthwhile for farmers to offer meat of a higher animal-welfare standard on the market.

Higher market prices and direct payments

Meat of a higher animal-welfare standard can usually be sold at a higher price, but entails higher costs for labour, straw and buildings, and is also subject to higher market risk. This study answers the question of the extent to which these costs are covered by animal-welfare premiums via the market (label premiums) and via the Swiss federal government (direct payments). The study investigates the statements of account of 11 cattle-fattening and 10 pig-fattening farms with the IP-Suisse label, which were compared with a minimum-standard (Animal Welfare Ordinance) situation.

Beef-cattle fattening: only 72 % of animal-welfare costs covered

The animal-welfare premium for beef-cattle fattening is funded 66 % by the market and 33 % by direct payments from the Swiss federal government. These subsidies, however, only cover 72 % of the costs of meeting the higher animal-welfare standards. With pig fattening, just under 60 % of the animal-welfare premium is funded by the market whilst a full 40 % is funded by the federal government, and 91 % of the costs of the animal-welfare services are covered.

The more fattening places a farm has, the greater the extent to which the additional costs for animal-welfare services are covered. Conversely, in farms with smaller herds, the animal-welfare premiums cover an even smaller percentage of the costs.

Why do we invest in animal welfare despite this?

This begs the question of why so many farms have invested in higher-animal-welfare services when existing results show that conventional production would be more profitable. The answer might lie on the one hand with personal

The additional costs associated with higher animal welfare are less well covered in beef-cattle fattening than in pig fattening.

preferences, and on the other with strategic considerations. Thus, products with value-added in terms of animal welfare in principle achieve higher prices on the market, but the higher direct and structural costs as well as the risk costs incurred by demand-related premium deficiencies tend to be either underestimated or not taken into account on the farms. Beef-cattle fattening farms producing their own basic ration are affected by this to a greater extent than pig-fattening farms, whose costs can be more easily calculated.

Taking alternative funding models into account

The present study shows which effective costs are covered or not covered. If an economic incentive is to be created for the provision of animal-welfare services, an incentive premium would also have to be established via the market or direct payments. However, alternative models for remunerating animal-welfare costs must also be taken into account, such as increased investment subsidies or payments for the land devoted to forage-growing, in order to at least mitigate a potential exhaustion of the premiums by the upstream and downstream sectors. —

Conclusions

- The animal-welfare premium for beef-cattle fattening is funded 66 % by the market and 33 % by direct payments from the Swiss federal government. Thus, only 72 % of the costs of higher animal welfare are covered by said premium.
- With pig fattening, just under 60 % of the animal-welfare premium is funded by the market whilst a full 40 % is funded by the federal government, and 91 % of the costs of the animal-welfare services are covered.
- The more fattening places a farm has, the greater the extent to which the additional costs for animal-welfare services are covered.
- It is more difficult to calculate animal-welfare costs for beef-cattle fattening, which is presumably why these costs are often underestimated.

Further information at agroscope.ch

Should Antibiotic Use Be Reduced through Incentives?

Antibiotic use could be curtailed through incentives that improve animal health. Most farmers are open to direct payments in support of this.

Stefan Mann

Nearly half of all dairy cows are treated every year with antibiotics.

High antibiotic use in both human and veterinary medicine leads to resistance, and accordingly to increasing problems with treatment. With this in mind, in 2015 the Swiss Federal Council passed an Antibiotic Strategy, which affirmed, among others, that incentives should play an increasing role in reducing antibiotic use.

As part of a project funded by the Swiss National Science Foundation, Agroscope conducted two representative surveys among Swiss livestock owners. The first survey aimed to better understand the status quo of antibiotic use, and revealed that use in poultry production is very low. By contrast, almost one in two dairy cows is treated annually with antibiotics, especially during drying-off.

Surveys on the consumption and reduction potential of antibiotics

This survey resulted in the development, in partnership with farmers and vets, of potential programmes for reducing antibiotic use in animal husbandry. Most of these programmes chose the approach that involved improving the hygiene situation on the farms, e.g. via veterinary herd care, or the fattening of calves on the farm where they were born.

The second survey served to ascertain the acceptance of such programmes. The programme that awarded a bonus to the 25 % of farmers with the lowest antibiotic use did the best. By contrast, the idea of subsidising the visit of expert teams to the farms was the least popular. The advised payment amount also played a role. Lastly, this survey also revealed that the existing PAS ('Particularly Animal-Friendly Stabling') and ROEL ('Regular Outdoor Exercise for Livestock') dairy animal welfare programmes are already having a positive impact on livestock health.

Twenty-two per cent of the respondents refused all of the suggested programmes. It was clear from their comments that this attitude was often based on a fundamental rejection of state intervention in animal health.

The project was funded by the Swiss National Science Foundation as part of the National Research Programme 'Antimicrobial Resistance' (NRP 72).

Conclusions

- State incentive programmes for improving livestock health conditions are particularly successful in leading to a further reduction in antibiotic use in agriculture.
- The incentive programme awarding a bonus to the 25 % of farmers with the lowest antibiotic use had the highest acceptance among farmers.
- The existing animal welfare programmes PAS and ROEL are already having a positive impact on animal health, thereby contributing to a reduction in antibiotic use.
- With the minority of farm managers who oppose the use of such programmes, however, it is only through legal requirements that progress will be made both now and in future.

Scientific article at agrarforschungschweiz.ch

Groundbreaking Ceremony for New Agroscope Laboratory Building

The ceremonial groundbreaking for the new Agroscope laboratory building took place in Posieux at the beginning of October. Construction of the new laboratory is a key element of the implementation of Agroscope's site strategy.

In just a few years, the Posieux site (canton of Fribourg) will become Agroscope's central research campus. Initial construction work on the new laboratory building began there on 1st October. In the presence of representatives of the canton of Fribourg and the Swiss Confederation, a mechanical digger removed a first layer of earth which will be retained for later use. These preliminary works marked the official opening of the construction site.

The new laboratory building in Posieux will be financed and constructed by the canton of Fribourg. Once built, it will be leased to the Swiss Confederation. The building will be equipped with the latest technologies for agricultural and food research. In addition, the Confederation will renovate the existing buildings (conference and reception building, admin building, farm building) through the Federal Office for Buildings and Logistics FOBL. The infrastructure on the site will also be renovated and extended. As the client, the canton of Fribourg intends to hand over the laboratory building to Agroscope in late 2024.

Our video with official statements, aerial views and visualisations gives you a preview of the future Posieux site.

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“The Experimental Station is a unique project at the interface between practice, research and enforcement.”

Thomas Steinsberger, Head of the new Experimental Station for Substance Flows in Sursee

▸ Portrait, page 10

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