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Safeguard for **A**gricultural **V**arieties in **E**urope
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A Cross-disciplinary Approach on Animal Genetic Resources

Cooperation is the Key to Projects with a Real Impact

Mervi Honkatukia

A Finnish wedding. Source: Veera Konsti

For centuries, the fates and fortunes of humans and cattle have been intertwined in the mountainous arctic landscapes of Northern Europe. But the Northern cattle breeds are now threatened and are at risk of being outcompeted by more commercial breeds. To save their unique legacy for the future, scientists have now joined forces to give a nuanced picture of the past, present and future of the breeds in the project "3MC – Nordic Mountain Cattle".

A Holistic Approach

The multidisciplinary research team of the project "3MC – Nordic Mountain Cattle", which is coordinated by NordGen and includes several consortium partners*, consists of archaeologists, cultural researchers, historians, geneticists, and game developers.

NordGen Farm Animal's Section Leader Mervi Honkatukia heads the research team. During her career she has been part of several projects aiming to impact a breed's conservation status. In-

stead, Honkatukia believes in working across national borders and scientific fields.

“A cross-disciplinary approach will give a more nuanced picture of the history, culture and lineage of the mountain cattle breeds. Through collaboration we can do a much better job at raising awareness for a more sustainable use of the now threatened breeds,” said Honkatukia.

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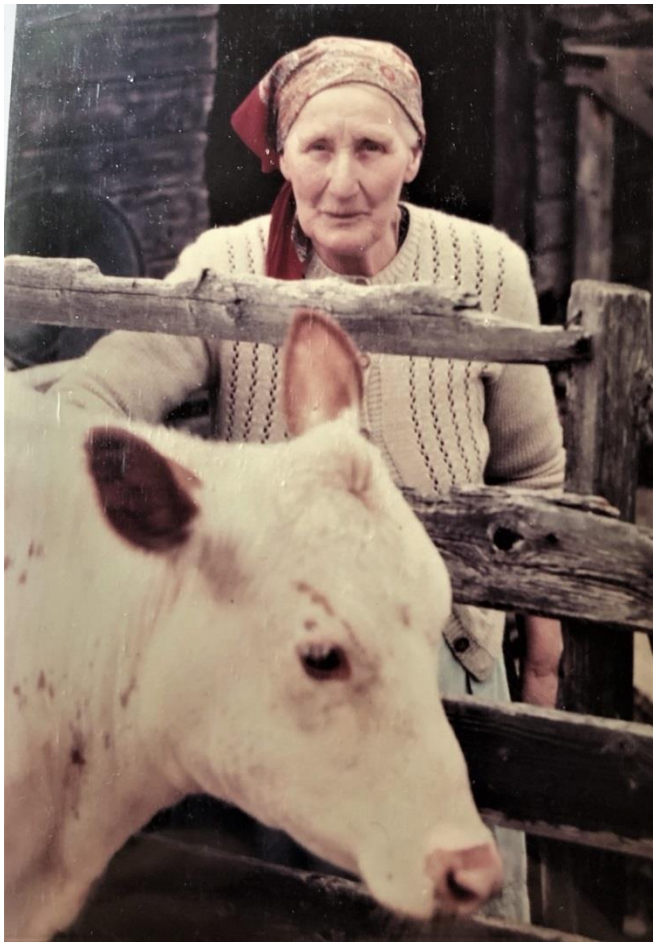
Endangered Sister Breeds

Farming economy in the far North was only possible due to the adaptability of the local cattle population. The national borders were not limiting movement of people and cattle.

History researcher Hilja Solala investigates the common origins of the sister breeds. “It is both important and exciting to study the history of the mountain cattle because the breed is shaped by decisions made during the course of history. In addition, I hope that my work is a good foundation for the rest of the research team to build on.”

Lapland Cattle Source: Veera-Happonen-Pelson



The project studies human-cattle relationships of the past and the present. Image: Desiree Idvarsson

Solala continues: “The 3MC project is also developing a computer game, and the developers need access to historical knowledge as well as oral tradition to be able to build the plot of the game.”

Modern Genetics Meet History

Researcher Maria Kjetså’s work combines modern genetics and history. The aim is to obtain new information on the level of inbreeding within the breeds as well as crossbreeding between the three and to develop new ways to protect their genetic diversity. Her ordinary working day consists of a meticulous check and harmonization of pedigree book entries so that all the information they contain can be entered into modern analysis programs. “In all three countries, pedigree data are marked slightly differently. A lot of work is needed to get everything recorded correctly and in the right format”, Kjetså said.

The oldest documents that Kjetså digitizes are from the end of the 19th century. “The collaboration with his-torian Hilja Solala on the oldest pedigrees of the Northern Finn cattle has been very interesting. We get new information about what Northern Finn cattle was like before the Second World War and we follow the history not only of the herds, but also of the people who took care of them”, Kjetså said.

Bones Provide Information

Professor Juha Kantanen's research group focuses on ancient DNA. The aim is not just to study genes, but to combine them with what is already known of the history of the northern regions. In collaboration with zoo-archaeologist Auli Bläuer,

Kantanen compares the DNA of ancient cattle with the current mountain cattle breeds.

The native breeds of the northernmost regions of Europe have adapted to local conditions.
Source: Desiree Idvarsson

"Ancient domestic animals can tell a lot about history and the life of human society that we otherwise would not know about. I wonder if ancient DNA analysis would bring up new issues related to the population or culture of the North. I hope that our cattle research will provide information that can be used to connect cattle to historically significant events" Kantanen said.

The Most Important Achievement

As a researcher and expert in animal genetics, Mervi Honkatukia is naturally interested in the new information that the project will provide about the history and pedigree of the northern cattle breeds. "Now we have a chance to get a clearer picture of how closely the breeds are related". However, Honkatukia thinks that the most important achievement during the first year of the project are the contacts that have been made with the livestock owners who do practical conservation work, as well as with other friends of the northern cattle breeds, who are actively promoting the tradition. "Conservation of genetic resources requires a culture, a community where animals are cared for and used. Therefore, the genes of our indigenous breeds are culture", said Honkatukia.

Cooperation is the Key

As Section Leader NordGen Farm Animals Honkatukia establishes networks and advises governments and institutions in questions relating to sustainable conservation and utilization of farm animal genetic resources. "We must be creative when planning future projects. Cooperation is the key to projects with a real impact. And NordGen is a good hub for that. Here the opportunities for Nordic co-operation can be seen in a new way", Honkatukia concludes.

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*The consortium partners include Ahlman Vocational College, Natural Resources Institute Finland (Luke), University of Southern Denmark (SDU), Dalarnas Museum and Swedish University of Agricultural Science (SLU). The project is funded with a grant from EU Interreg Nord, Länsstyrelsen Norrbotten and Lapin Liitto 2019-2022.

All photos in the article were sent to the photo competition that was arranged to increase public awareness of mountain cattle and their unique culture.

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Seed production in the Wadden Sea: Pellworm island on the way into the future

Pellworm Island. Source www.seeds4all.eu

Seeds4All is a census platform aiming to give visibility to all European organisations that collect, enrich, produce, disseminate, and sustainably use traditional and new varieties of seeds belonging to the public domain, freely reproducible and not genetically modified. Together with the local association "Ökologischer Wirtschaften!", Seeds4all organized a seminar on the future of local seed production on Pellworm. Breeders from Portugal, Denmark, Belgium and Germany attended the meeting to exchange practices.

As a North Frisian island, Pellworm is a place that has always been exposed to major threats in connection with global warming and rising sea levels. The great flood of 1634 washed away two thirds of the lowlands on the west coast of Schleswig-Holstein, and some say that Pellworm could be lost by the end of this century.

But there is a rebellious young generation that does not accept that the climate challenges are undeniably lost. "Only dead fish swim downstream or go with the rivers" goes a saying, and the islanders seem to take it seriously.

Indeed, local seed production could be a key to a new transition that will put an end to inefficient and even destructive agricultural practices, while at the same time bringing these young rebels and dreamers determined to stay on the land where they are guarantee a future.

The new EU organic regulation will come into force in January 2022, stipulating that only organically produced seeds may be used for organic farming. The market for organic seeds will therefore grow in the future. So far, organic farmers have been allowed to use seeds from conventional cultivation, which are usually high-yielding varieties that are dependent on herbicides, pesticides and artificial fertilizers.

Currently there are hardly any seeds that have been selected for disease resistance and pests that would also help improve soil life and fertility. Just as important for organic farming are crops that adapt to climate change and that can compete with weeds for cultivation.

Growing organic seeds as a generation project
Many islanders participated as parent-child families, as if working with organic seeds required an agreement between the generations. The younger generation wants to break new ground in a rapidly changing economic and ecological environment, but needs the support of the older generation.

Their visions included seed autonomy, Development of the value chain with seeds that are suitable for the rapidly changing production conditions of the future, the multiple use of cultivated plants, including healthy animal feed and straw, High-quality bread as well as sensitizing consumers to the relationships between breeding, cultivation and the quality of agricultural products.

Goose plague on Pellworm
In the face of constant changes in climate, territories or resources, modern agriculture must be particularly aware and flexible in order to find solutions. A particularly striking example is the white-fronted goose on Pellworm, which had to adapt to external disruptive factors:

white-fronted geese. Source: https://commons.wikimedia.org/ Frank Schulenberg

Since the 1970s, the European Union has banned the hunting of several endangered species of wild geese, such as the white-fronted goose and the barnacle goose. Since then, the population has risen sharply from 50,000 in 1970 to around 1.3 million today. The white-fronted goose is a breeding bird native to the high Arctic. It breeds in Siberia and moves to the North Sea coasts of Germany and the Netherlands in early winter when the temperatures in Eastern Siberia get too extreme. In recent years, however, the geese have shortened their migration route due to increasingly mild winters and have mainly stayed in Northern Europe. In addition to the mild winters, the food supply, consisting of high-energy grains from intensive agriculture on the arable land, also plays a major role. The geese became a critical problem on Pellworm, eating away winter crops between October and April which were sown in September. Tensions are mounting between proponents of population reduction and conservationists.

However, a hunting strategy seems to be an impractical solution. First, because it would require massive and permanent interventions that would have to be repeated every year. Second, because it would jeopardize the conservation policies of other bird species that nest and breed in the same areas. Pellworm is also a unique nature park and biosphere reserve that specifically attracts tourists.

More flexible agricultural practices are needed. Some farmers who can afford it have already given up growing winter crops.

Another way out would be the development and cultivation of populations and new types of grain that are adapted to the new conditions: less energetic, more resistant shoots, shorter cultivation time so that it can be sown in May and harvested in September, if the geese are further north.

Cultivation trials with Swedish rye and other types of grain showed that the geese prefer less rye than wheat and barley. In the coming years, the cultivation trials are to be extended to spelled and other northern populations, which can be sown in May and harvested at the end of August while the geese in Siberia are on vacation.

Source: www.seeds4all.eu/

Cultivation trials with alternative grain populations. Source: www.seeds4all.eu/ © Adèle Pautrat

Wolfes and rare Livestock Breeds Requirements of the GEH, Germany

Leinesheep in Germany. Foto: SAVE

To the delight of conservationists in Europe, wolves continue to spread. But livestock owners see the spread of wolves as a threat to their free grazing herds. In many European countries there is a large patchwork of protective measures and state support for livestock owners. This also applies to Germany. The SAVE partner organization GEH (The Society for the Conservation of Old and Endangered Livestock Breeds) has developed a catalogue of requirequirements in Germany with measures for the protection of free grazing livestock, which can also be used in other European countries. We must learn to live with the wolves and protect our herds. But this should run with coordinated and appropriate support from the authorities.

European wolf (Canis lupus lupus). Foto: Pixabay, Rain Carnation

The spread of wolves in Germany is very dynamic with an annual increase of 30%. The whole of Germany is considered a land of expectation for wolves. In spite of the partial implementation of the preventive measures recommended by the environmental authorities, several thousand wolf attacks have already occurred in the wolf areas. In numerous cases, wolves have overcome the wolf-repellent fences, in individual cases also outsmarted herd guard dogs or overcome other protective measures. In shepherded flocks, wolves sometimes come very close to the flock and are difficult to drive away. The previous forms of pasture management, especially with sheep and goats, are associated with high risks of animal loss and further damage by wolves in the wolf areas. The federal states in Germany promote the wolf defence to varying degrees with subsidies for the cost of materials for the construction of electric fences and for the acquisition of guard dogs and, under certain conditions, replace damage caused by wolf attacks in proven cases. These subsidy and compensation rules are an inadequate patchwork quilt. This is also felt by the maintainers of traditional domestic breeds. The gaps in prevention and compensation endanger not only the biological diversity of farm animal breeds but also the conservation of the landscape grazed and the wild plants and animals that benefit from grazing.

The Society for the Conservation of Old and Endangered Livestock Breeds (GEH) demands:

1 The federal and state governments in Germany must present concepts for solving the tension between grazing animals and the spread of wolves. They must clarify how the conservation of the biological diversity of farm animals can be ensured despite the increasing number of wolves. This includes the answer to the ques-

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tion of how extensive grazing animal husbandry in Germany as a sustainable and future-oriented form of agriculture can also be preserved in its importance for the protection of wild species in flora and fauna as well as for environmental protection despite the spread of wolves - in a way that is economically viable for the farmers. The wolf-repellent electric fences required by the federal states have often proven to be inadequate. In many places, however, it is not possible to set up ever higher fences, especially if they should be relocatable for changing grazing areas:

1.1 The addition of the new Paragraph 45 a in the Federal Nature Conservation Act at the beginning of 2020 is a first step. It allows the killing of wolves "which have killed grazing animals protected by reasonable herd protection measures". However, pasturing of livestock is still associated with great risks. For wolves, which repeatedly mauled livestock, a solution must be found in the management plans with regard to deterring and removing them.

1.2 There are numerous areas in which the erection of fences is not possible or only possible with great effort:

- Pasture areas densely traversed by moats and streams, especially in northern Germany,
- Dykes and foreland (the grazing by sheep is necessary for dyke safety),
- Steep slopes (with poor grass, grazing is necessary to prevent shrub encroachment),
- mountain areas.

1.3 Wolf attacks on grazing animals have led to the escape of sheep, cows and horses from the pastures in numerous cases. These animals are a great danger on roads and railways. The animal owners must be relieved by a subsidy for the insurance premiums.

1.4 For the promotion of the necessary defence against wolfs and the regulation of wolf damage, a legal entitlement must be created for those affected.

2 The federal states need to develop concepts to promote grazing in nature, nature conservation and Natura 2000 areas, as well as protection against wolf cracks and compensation for wolf cracks. This funding must financially offset the costs incurred by the animal owners, including the work involved in setting up and maintaining the fences. The previous promotion of grazing and the current support with regard to wolf defence are not sufficient.

3 The federal states should implement model projects to promote communal, in particular co-operative forms of joint grazing animal husbandry with wolf control measures, such as with the help of herd chaperoning (shepherds).

4 With the regulations of the federal states for subsidies for prevention and for compensation in the event of a damage, in view of the higher expenditure for the conservation of rare breeds and the risk of a loss of valuable genetics special support is needed for the keepers of rare domestic animal breeds - including hobby keepers and keepers without a farmer's privilege - in particular through:

4.1 Higher funding rates for security measures such as fence construction or herd protection. In addition to subsidizing the fence construction, the work of fence construction must also be promoted.

4.2 Approval and subsidization of predator-safe "possibilities to shelter" animals (§ 3 Animal Welfare and Farm Animal Husbandry Regulation) including the creation of appropriate legal bases,

4.3 Compensation of the monetary value of the animals with special consideration of the breeding value of herd-book animals,

4.4 Compensation for consequential damages also outside of pastures caused by wolf attacks in pastures, compensation for costs such as for the veterinarian, time spent searching for animals after wolf attacks,

4.5 Rapid handling in the event of a damage

Contact: info@g-e-h.de

Valachian Sheep, Roznov. Foto: SAVE

Payments for the Conservation of Animal genetic Resources in Agriculture

Financial incentives for the conservation of local breeds are intended to make breeding and keeping more economical. Fixed payments per livestock unit (LU) are common. A study from Slovenia was published in March in the journal “Animals”, 2021, 11, which examined how state subsidies for the conservation of animal genetic resources affect population numbers and how farmers react.

Since 2002, local livestock breeds in Slovenia have received financial incentives in the form of a fixed payment per livestock unit (LU). This should sustainably promote the conservation of life. However, this did not really stop the erosion of animal genetic resources. The present study investigated whether and how better incentives to pay can positively influence the population of traditional breeds.

More than 300 farmers were interviewed who keep local breeds of sheep, goats or pigs. The evaluation showed that the willingness to accept maintenance aid (willingness to accept = WTA) deviates significantly from the actual payments. The estimated WTA was found to be 27% lower for the local sheep and goat breeds and 5% higher for the local pig breeds, suggesting that differentiated payments that are reasonably cost-covering would ultimately be a cheaper alternative. Interestingly, this does not apply to keeping local goat breeds.

The study revealed other interesting results:

Farmers who already keep local breeds are more willing to take part in binding support programs. This is particularly relevant for local breeds with small to very small populations.

Farmers who have already participated in previous agri-environmental programs (AEP_12) are less willing to participate in a future support scheme. This reflects the dissatisfaction with the implementation of the agri-environmental measures. Administrative regulations, restrictive conditions and insufficient payments are frequently mentioned reasons why farmers tend to forego subsidies. Often the obligations cannot be fulfilled in practice, are time-consuming and apparently do not create any added value for the farm. The implementation modalities should be reviewed accordingly.

If farmers look at the environmental impacts and social benefits of keeping local breeds, their interest in participating in the relevant support programs increases.

Awareness and positive perception of the ecological and social benefits of local breeds is also a prerequisite for successful valorisation along the value chain. This does not only apply to farmers, but also to (local) consumers. Promoting niche products and certifications could increase this awareness. Current tastes and preferences of consumers must be considered when developing niche products.

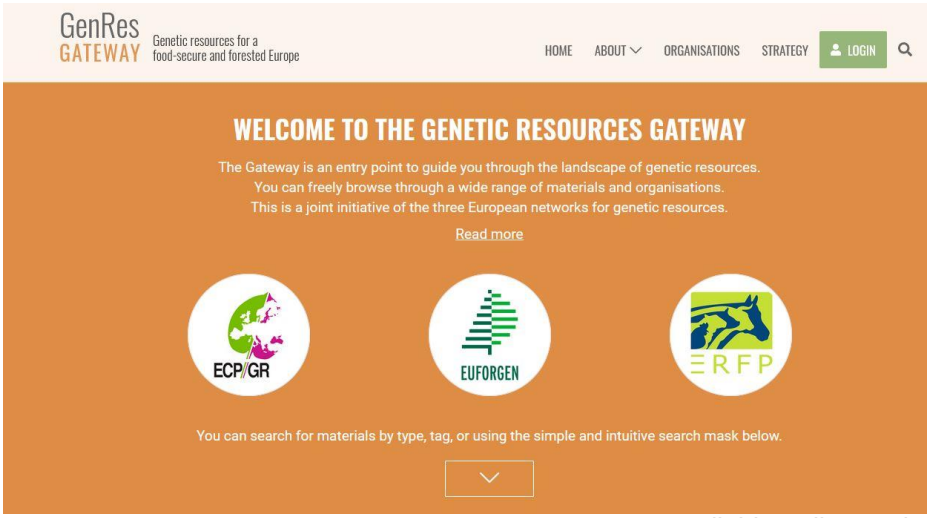
Complementary strategies to support the sustainable conservation of local breeds in terms of their public and private values must also be promoted. In addition to the market valorisation mentioned, the unique selling proposition and the ecosystem services are also important.

Source:

"Payments for Conservation of Animal Genetic Resources in Agriculture: One Size Fits All?" Juvančič, L .; Slabe-Erker, R .; Ogorevc, M .; Drucker, A.G .; Erjavec, E .; Bojkovski, D. in: Animals 2021, 11, 846. https://doi.org/10.3390/ani11030846

Newsflash

Genetic Resources Gateway



In the frame of the GenResBridge project (www.genres.eu) a Genetic Resources Gateway (https://www.genres.eu/) was created. It is a crowd-sourced platform to guide through the landscape of forest, plant and animal genetic resources in Europe. The whole project is a a joint initiative of the three European networks for genetic resources, ECPGR, EUFORGEN and ERFP. Stakeholders from organizations working on genetic resources in Europe and in the neighbouring countries are invited to register and add relevant materials to be featured on the Genetic Resources Gateway. It is easily possible to become an edi-tor by adding the respective organization and key content like multimedia material, technical guidelines, maps, projects, databases and success stories. The Genetic Resources Gateway was developed using modern and innovative tools to make organizations easily findable on the web, by improving the indexing of the Gateway resources on google and other search engines and allowing the “share” function on different social media. The added material will be available online and provide support to policy makers, educators, land managers, breeders, researchers and journalists to access data and information on genetic resources. Users that are interested to access the material can use the search mask with several filtering options as the entry point to easily find a wide range of key materials and organizations on genetic resources. The Genetic Resources Gateway is in its very first steps, but there are already many organizations and content to browse. The platform’s ultimate completeness and relevance will depend upon the contributions of its users and editors.

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Science at the service of biodiversity

The EU is setting up a dedicated Science Service to provide decision makers with timely research-based options for policymaking on biodiversity. Biodiversity-rich ecosystems are essential for life. They provide food, health and medicines, materials, recreation, wellbeing and much more. Scientific evidence shows that ecosystem services are deteriorating rapidly and that biodiversity loss has accelerated despite the measures taken at EU and global level. The EU biodiversity strategy for 2030 sets out to put a halt to this, but its success depends on the effective implementation of science-based policies.

Once set up under Horizon Europe, this Science Service, scientific pillar of the Knowledge Centre for Biodi-versity (KCBD), will offer support to all bodies involved in the implementation and governance of the EU Biodiversity strategy for 2030.

Making use of and complementing existing science-policy initiatives, the Science Service is meant to be-come the principal EU mechanism to support a dynamic dialogue between science and policy in order to systematically integrate research and innovation into EU biodiversity policymaking, implementation, monitor-ing and review through the KCBD.

Agricultural Policy Development ion the West Balkans and Turkey

The aim of the report "Recent agricultural policy developments in the context of the EU approximation process in the pre-accession countries" is to analyse recent agricultural policy developments in the countries/territories of the Western Balkans (WBs) and Turkey and their state of harmonisation with the Common Agricultural Policy (CAP) of the EU. The report provides both comparative cross-country analyses and a more detailed assessment in the form of country case studies from Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, Serbia and Turkey. The report builds on the series of previous work undertaken on a similar issue by providing an update on the recent agricultural policy developments in the region. That is, the report covers the period from 2017 to 2019 in detail, with reference made to changes that took place in the previous decade. The comparative cross-country analyses carried out in this report follow the conceptual framework that defines the key harmonisation principles required to align the agricultural policies of the WBs and Turkey with the EU's CAP. A quantitative analysis of agricultural policy developments was performed using data on budgetary support for agriculture, systematised according to the unified statistical databases and the Agricultural Policy Measures Classification (APMC) tool, a uniform classification scheme of agricultural budgetary support enabling a comparison of the scope and structure of budgetary support for agriculture between the WBs and Turkey and the EU. The alignment of the agricultural policies of the WBs and Turkey with the EU's CAP is rather heterogeneous across countries/territories. Overall, the agricultural policies of the WBs and Turkey are more in line in terms of commitment and future planning than in terms of the policy measures actually implemented. The WB countries/territories and Turkey adopted, to a large extent, the sustainability model in their medium- and long-term strategic planning for future agricultural policies by aiming to promote economic, environmental and social objectives in the agricultural sector and rural regions. However, when it comes to the implementation of measures, support is mainly production oriented and has a sectorial focus.

Source: www.fao.org/family-farming

Download report: http://seerural.org/publications/

Livno Horses in Bosnia and Herzegovina. Photo: SAVE

Pastoralism - Making variability Work

Flock of sheep in the Danubian Delta. Photo: Rene Meissner

Pastoralism is a livestock-keeping system that specializes in taking advantage of environmental variability, managing grazing itineraries at a variety of scales so that livestock feed better than without a herder. Elaborating on this definition, the document explains how pastoralism, by farming with nature, can address the global challenge of producing food sustainably in a context of increasing variability from climate change. It does so in addressing climate change, economic contribution and employment, food security, food safety and nutrition, water efficiency, ecosystem services, landscape functionality, resource management, regional economic integration, biodiversity conservation and the transition to a green economy.

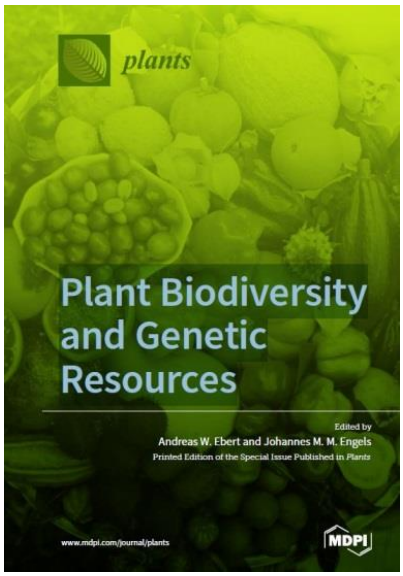
This document aims to engage FAO in the mainstreaming of pastoralism – promoting FAO's corporate vision by generating an understanding of pastoralism and systematically including pastoralism in FAO's normal operations – and to present an evidence-based narrative on pastoralism for a specialist audience.
FAO. 2021. Pastoralism – Making variability work. FAO Animal Production and Health Paper No. 185. Rome.
Download:
www.fao.org/documents/card/en/c/cb5855en

Traditional Agriculture in Belluno

In the northern Italian province of Belluno and beyond, a considerable part of the "historical memory" of many fruit, horticultural, grain and animal breeding practices that shaped the provincial area has been lost in recent years.

Bionet, a regional network for the conservation of agricultural biodiversity in Veneto, Italy, researched the traditional agricultural diversity of this region in collaboration with the international library "La Vigna" of Vicenza. This is how the province's traditional livestock breeds such as Bellunese and Grigio Alpina cattle were described, as well as vegetables, cereals, fruit and wine. Available for free download, the book contains extensive descriptions and historical images. It is astonishing that even today there are different types of vegetables and grains to buy in the local markets. In Italian language.
Download:https://www.venetoagricoltura.org/2020/09/editoria/lagricoltura-bellunese-nel-secolo-scorso/

Plant Genetic Resources



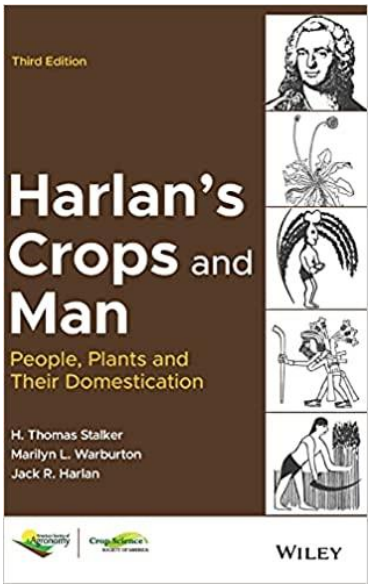
Production systems and the underlying genetic resources including crop wild relatives that are found in cultivated and protected land, and especially in natural ecosystems such as forests (ranging from tropical to temperate), are severely threatened due to drastic land-use changes, over-exploitation of resources, and man-made and natural disasters. Climate change is already affecting the distribution of plants and associated species, their population sizes, and life cycles. Efficient adaptation strategies for a changing climate require, among other measures, the effective and rational conservation and sustainable utilization of the remaining (in particular agricultural) biodiversity, both in situ as well as in genebanks and access to genetic resources of crops and their wild relatives by plant breeders.

To develop and grow 'climate-smart' crop varieties for sustainable production systems, farmers and plant breeders worldwide are in dire need of access to a wide range of traits and genes, often found in plant genetic resources located far away from major production areas. This raises a multitude of policy issues and concerns regarding access and benefit-sharing, ownership, intellectual property rights, and patents imposed on PGRFA and breeding lines, as well as implications of transgenic crops for biodiversity and sustainable agriculture.

Therefore, in this Special Issue on plant biodiversity and genetic resources, the editors invite articles (original research papers, reviews, perspectives, opinions, and modelling approaches) that address the above-mentioned issues and are guided by the keywords provided for this topic.

Download:
https://www.mdpi.com/journal/plants/special_issues/plant_biodiversity_genetic_resources

Harlan's Crops and Man 3rd Edition



In June 2021 the 3rd editon of "Halan's Corp and Man" a scientific and historical study of crops and their age-old relationship with human civilization was published.

The cultivation and harvesting of crops have been at the heart of human culture and development for thousands of years. As we have grown from hunter-gatherers into agrarian societies and industrial economies, our ongoing relationship with the plants that feed us and support our manufacturing has also evolved. So too, of course, have those plants themselves, with the combined forces of shifting climates, selective plant breeding, and genetic modification all working to alter their existence in profound and fascinating ways.

Coming some 30 years after its previous incarnation, the third edition of Harlan's Crops and Man marks an exciting re-examination of this rich topic. Its chapters lay out the foundations of crop diversity as we know it, covering topics that range from taxonomy and domestication to the origins of agricultural practices and their possible futures. Highlights include:

- Archaeological and anthropological studies of agriculture's history and development
- Detailed examinations of the histories and classifications of both crops and weeds
- Explanations of taxonomic systems, gene pools, and plant evolution
- Studies of specific crops by geographical region

Updated to include the latest data and research available, this new edition of Harlan's Crops and Man offers an illuminating exploration of agricultural history to all those engaged with plant science and the cultivation of crops.

Source:

ISBN: 978-0-89118-633-5, 3. Edition June 2021, John Wiley & Sons, 320 Pages, Hardcover

Vegetative States: Potatoes, Affordances, and Survival Ecologies

The potato has been critical to plant–human assemblages both in South America and in Europe. A study of the capacities, or affordances of this plant within diverse political economies highlights its mutability in some circumstances and vulnerability in others. The contrasts are strong. In South America, peasant agriculture took the potato across a large and diverse development allowing its elaboration into many varieties and sustaining extensive state systems that taxed its production. Spanish colonialism repurposed the plant as the calorific basis for concentrations of coerced labour at silver mines. Back in Europe it was initially the resistance of the potato to state violence that encouraged peasants to turn over their fields to a tuberous plant that "concealed" its food underground. But its calorific productivity per acre again saw it repurposed as peasants were converted to proletarians, allowed to subsist on only the smallest plots while working for landlords on larger estates.

Source:

Nally, D., Kearns, G.: Vegetative States: Potatoes, Affordances, and Survival Ecologies. https://doi.org/10.1111/anti.12652

Voluntary work for the Burro de Miranda

AEPGA (Associação para o Estudo e Proteção do Gado Asinino) has been committed to the conservation of the "Burro de Miranda", a donkey breed from the "Terra de Miranda" region in northeastern Portugal, for many years.

The exchange of knowledge is an important element of conservation work. AEPGA has been offering 5-day volunteers since summer 2021: Volunteers accompany AEPGA employees and support them in their diverse tasks, such as caring for and feeding the donkeys, assisting with veterinary examinations, cleaning the hooves and maintenance work on buildings and infrastructure. Visits at donkey keepers in the villages of Planalto Mirandês are also part of the program. The first participants returned home enthusiastic. They received an intimate insight into the diverse work of AEPGA and the work with donkeys in general. They also got to know a region of Portugal that is generally little known. Traditions and cultural techniques are being revived in connection with the conservation of the Burro de Miranda, thus counteracting migration to a certain extent. Sustainable agriculture and the development of innovative products are cornerstones of this important work.

The traineeships for 2021 are already fully booked and it is not yet known whether AEPGA will continue the program in the next years. Further information: https://www.aepga.pt/evento//cab-dinamiza-campos-de-trabalho-voluntario-internacionais-769/ or: aepga@aepga.pt

Foto: AEPGA

Last but not least

The biggest Cherry of the World 2021

The biggest cherry in the world, compared with a 2-Euro coin. Alberto Rosso

The weather in 2021 has led to losses in fruit and vegetable production in many places. The cherry harvest in particular was rather modest compared to other years. But not so in Pecetto Torinese in Piedmont in Italy, where sweet cherries are grown in the family farm of Alberto and Giuseppe Rosso. The Rosso brothers grow around 70 varieties of cherries on their 6 hectare farm. Italy is Europe's largest cherry producer. However, Piedmont is not considered a typical cherry region as it is the case for Apulia, Emilia-Romagna, Veneto, Campania and Lazio.

At the end of June, officials from the INRiM National Institute for Metrological Research weighed "Carmen" cherries at the Rosso brothers' premises using high-precision scales, as required by the rules of the Guinness Book of Records. With a weight of 33.05 grams and a circumference of around 12.7 cm (5 inches), the Carmen cherry reached the size of an apricot.

Cherry growers and breeders know that the size and quantity of fruit can be controlled through targeted cutting. But even the best cutting and plant-care technology has its limits.

The variety "Carmen" comes from the University of Budapest, where it was bred by Brózik Sándor and Apostol János and is under EU variety protection.

Sources:
https://www.theguardian.com/world/2021/jul/07/italian-farmers-grow-worlds-biggest-ever-cherry

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In Autumn, Spring's promise becomes jam and sausage

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