SAVE e-News 4/2015
Safeguard for **A**gricultural **V**arieties in **E**urope
The quarterly electronic information service of the SAVE Foundation

SAVE Project Office
Neugasse 30, CH 9000 St. Gallen, Switzerland / www.save-foundation.net / office@save-foundation.net

Senner Horses: Biodiversity in the Senne

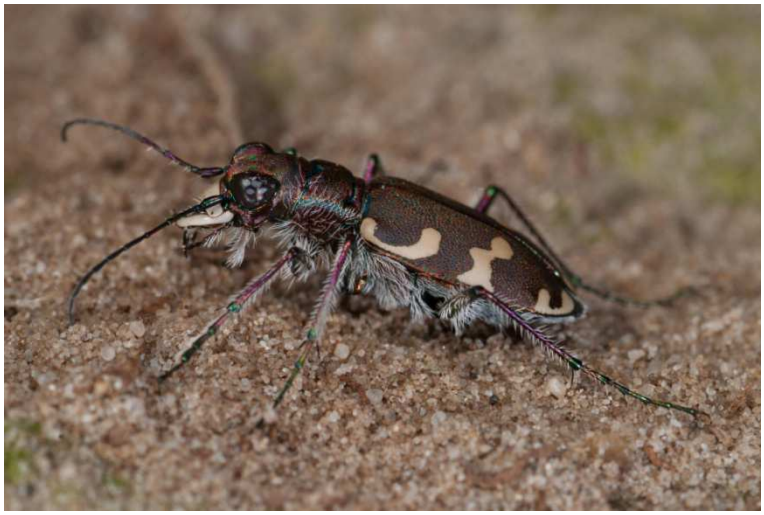
Senner Hoses Photo Guido Sachse

Livestock populations in wild or semi-wild keeping play an increasingly important role in nature protection, as it was clearly stated in the SAVE study "wild animal populations in Europe" (http://agrobiodiversity.net/topic_network/feral/breedatlas_feral.asp). The following article by Peter Rüther, Biological Station Kreis Paderborn - Senne eV. describes this impressively on the example of the Senner horses:

Only very few people will have heard of the Senner horses. It is the horse breed in Germany, of which the oldest written evidence exists. The first recorded mention of a semi-wild breeding of horses in the Senne dates back to 1160: Bishop Bernhard of Paderborn gave the monastery Hardehausen the third part of its untamed mares from the Senne. The term "Senner" for the horses of the Royal House of Lippe first appears in a document from the year 1541.

For centuries, the Senne and large parts of the adjacent Teutoburg Forest have been the habitat of the Senner horses. The mares and their foals were running free all year in the territory of the present-day military training area Senne. This kind of keeping caused comparatively low costs; only sufficiently large areas were needed. The year-round free-ranging horses were rounded up once a year to select suitable young stallions as riding horses and the mares were let free again into the wide Senne landscape.

Due to the low quality forage on the nutrient-poor soils and the few water points in the Senne the horses were forced to make long hikes. This



Dune tiger beetle photo Guido Sachse

caused a natural selection for hardness, stamina and surefootedness.

After the First World War the breeding ended under the Lippe Royal House. It was continued by the Association of Lippe horse breeders and since 1935 committed by different engaged individuals. 1971 Karl-Ludwig Lackner from Borgholzhausen started with his family to systematically rejuvenate the heavily over-aged mare stock of Senner horses according to the principles of Lopshorn breeding.

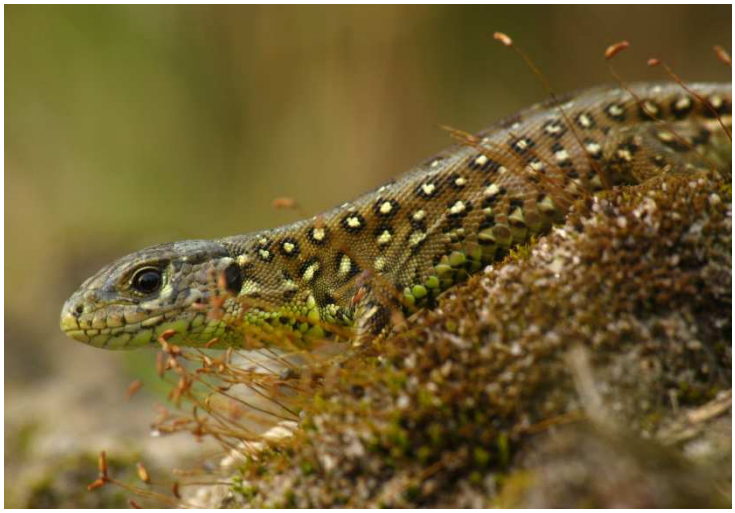
Since 2000 the Biological Station Paderborn district - Senne runs a pilot project with Senner horses for landscape maintenance on dry, nutrient-poor sandy areas in the Senne. The grazing area is situated in the nature reserve "Moosheide" (North Rhine-Westphalia, district Paderborn and Gütersloh). From May to October / November, 5 to 10 animals are grazing (depending on the offspring) to an area of approximately 20 hectares near the springs of the Ems river. In winter, the animals are grazing on other pastures, provided by the city of Paderborn.

The heathlands and dry meadows of the Senne are grazed traditionally by sheep and goats. Through the use of large animals with a different movement and feeding behavior, the Biological Station aims for an improvement in the structure and biodiversity in these areas. Compared to sheep and goats, horses are heavy and they move faster and more powerfully on the surfaces. Thereby they damage the sward much more. In addition, horses paw the ground and enlarge small open places with their hooves and - as soon as these sand holes have a certain size - the animals wallow in it for their coat care.

These open sandy places are small habitats, which occur rarely in the "normal landscape". These are important nesting and breeding sites for many animals, for example, solitary bees, Cicindela hybrida, ant lions and the sand lizard, which buries its eggs in the sand and can hatch from the sun. Many competitively weak dwarf plant species benefit from the newly created open sandy places (eg. pioneer species such as *Spergula morisonii*, silver grass, or *Hieracium pilosella*). In turn flower-visiting insects benefit from them. The accompanying research show that species and individual numbers have increased within many relevant groups of animals through the horse grazing. In addition, it is observed that in the grass-dominated pastures the heather is spreading on the small open sandy places, which were created by the passage of the horses.

Many visitors to the nature reserve, the nearby Information Center and bikers on the Ems cycleway are interested in the project. Therefore, the Biological Station offers regular tours to the project.

The Biological Station currently has 9 Senner horses that are used for the grazing project in the nature reserve "Moosheide". The studbook is led



Sand lizzard photo Guido Sachse

by the Senner horse breeding association eV (more information www.senner.de).

In September 2015 the grazing project with Senner horses of the Biological Station received the award as an official project of the UN Decade of Biodiversity. This honor is awarded to projects, which are engaged the conservation of biodiversity exemplarily.

The Biological Station gets various support - partly by volunteers - for the project "Senner Horses", eg. From:

- District Paderborn, City of Schloss Holte-Stukenbrock, City of Paderborn and the

Federal Authority for Real Property Administration

- European Nature Heritage Fund for the financial support of the project
- North Rhine-Westfalia for the promotion of an endangered breed
- Dirstrict Paderborn, district Gütersloh, and district government Detmold to support accompanying measures to the area
- Fire brigade Hövelhof for filling the water barrel
- Breeders' Association Senner horses for expert advice in breeding
- Dr. Heiner Vorbohle for veterinary care
- Numerous voluntary employees for a lot of time and commitment

Without these partners, the project could not be carried out. Our deep thanks go to all of them!

The existing good cooperation between the project partners and the good volunteer support let expect that this project can be successfully continued in the future.

Contact and further information: Peter Rüther, Biologische Station Kreis Paderborn – Senne e.V., Birkenallee 2; D-33129 Delbrück-Ostenland. Mail: info@bs-paderborn-senne.de; Web: www.bs-paderborn-senne.de

Senner Hoses Photo Guido Sachse

The Dutch DE OERAKKER Foundation - developing networks

Networking of Pomologists photo De Oerakker

In the Netherlands we have created a partnership that focuses on three areas of contemporary cultural heritage, namely livestock, crops and trees. We have designed a national plan to maintain our historical agricultural and horticultural crops.

The DE OERAKKER Foundation has taken the lead in the further development of crops and aims to preserve and employ historical agricultural and horticultural plants as a living cultural heritage. In recent years, attention has focused on developing a network structure. The Eeuwig Moes network (agricultural crops) has existed for about seven years under the umbrella of the De Oerakker Foundation. Recently, the De Bekoring network (cereals) was added. In a recent meeting with pomological Associations we agreed the first steps towards establishing a national Pomologen network (fruits).

Eeuwig Moes Network (vegetables)

This network is concerned with the preservation and use of old vegetables. The network currently consists of approximately 100 organizations and individuals. For information exchange/communication purposes, a public Facebook group has been created for De Oerakker.

Bekoring Network (cereals)

Recently the De Oerakker website was extended to include the Bekoring network, providing information about ancient grain crops and varieties, advice on cultivation and cleaning, and information about traditional combina-tions of crops with other vegetation and wild flowers. More than 40 ancient grain varieties are included in the collection.

Network of Pomologists (fruits)

On 12 March 2015, the De Oerakker Foundation organized a meeting to which several independent pomological associations were invited. In total, some 30 people were present at this meeting. No overarching national pomological society currently exists, and thus at this meeting it was agreed that collaboration is vital for the preservation and dissemination of old fruit varieties. At the meeting it was further decided that the possibility of a network of pomological associations, possibly under the umbrella of the De Oerakker Foundation, should be explored. To this end, a subgroup was formed to take forward the concept of a national cooperative structure in 2016. One of the partners is the pomological association of North Holland (POM NH). With its approximately 600 members the association stands for the maintenance of standard fruit trees since 15 years. Through grafting courses, consultations and in-situ collections in Egmond and Middenbeemster with over 300 varieties conservation will be actively pursued (www.hoogstamfruitnh.com).

The De Oerakker Foundation activities

In the course of the last 7 years, two volunteers established a list of historical agricultural and horticultural crops between 1850 and 1950. They carried out desk research in old catalogues and set up a database (Oranje lijst) containing significant information about these crops. The list can be accessed on www.deoerakker.nl under the button Oranje Lijst. This database contains 6211 varieties, divided into 40 types of historical agricultural and horticultural crops. Old apple varieties are included.

Obe Bootsma
Chairman De Oerakker Foundation

Saffraan Pear a tale of enthusiasm and scions

Saffraan Pear *Pomologia Batava Van Noort*

"And there I was travelling with three branches of the oldest cultivated tree in Africa on the plane back to the Netherlands. The saffraan pear in the Company's Garden in Cape Town was planted there four centuries ago by Jan van Riebeeck, and now I have brought it back" said Anneke van Sijpveld.

"In 2013, I received a call from Anneke van Sijpveld, Secretary of the Pomological Association of North Holland (POM). I had heard of the saffraan pear," said the 93-year-old Henk Houtman, " a pear variety that for centuries was grown in the orchards of North and South Holland, but after the Second World War it disappeared. That tree was missing from the collection, although I had tracked down nearly all North Holland fruit trees over the last 30 to 40 years. Was it possible that that particular tree had surfaced in South Africa? "

Until two years ago there were just 332 fruit trees in the orchard collection. The saffraan pear is the latest newcomer, number 333. On December 13, 2013 on the occasion of his 90th birthday, fruit expert Henk Houtman added the saffraan pear to the collection. "For ten years we have been searching for this pear variety," says Anneke van Sijpveld, on whose land the orchard is located. "The saffraan pear seemed to have disappeared from the earth. Until I was preparing for a tour of South Africa and read a guide about an ancient pear tree in the Company's Garden in Cape Town. A day before my departure, I found on the Internet that the old pear tree was said to be a saffraan pear". About 350 years ago, the fruit tree was brought from the Netherlands to South Africa by Jan van Riebeeck, to the Company's Garden in Cape Town, at that time a plantation where VOC people could reap fresh vegetables (including horseradish and spoon-leaf) and fruits.

Houtman gave Anneke tips on how to obtain the best scions of the tree and how to transport the branches 'live' back to the Netherlands.

"The first day after arriving in South Africa, I immediately visited the tree, "Anneke says. "It was a huge wide canopy, propped up with steel beams. It was difficult to photograph it at all. Some young twigs were growing over the high fence around the tree. It was clear to me that I would return to the Netherlands with some samples for grafting". During the last day of her tour Anneke went back to the saffraan pear, armed with a pocket knife, plastic bag and backpack. "The Company's Garden Manager was initially hesitant in his response," she says, "but when I handed over a letter from POM Secretary Cor Donkervoort with an official request to obtain scions, I gained permission to cut three young twigs. Henk told that I had to remove the leaves from the twigs to increase viability, which I of course did immediately. "

The first graft died. Back in the Netherlands, Houtman grafted one of the three twigs directly. "November is not really a good time for grafting, "he says. "That turned out to be true, because this sample did not make it through the winter. The other two twigs were kept alive in a moist sand bed for a few months. The arborist Dirk Bor and I were able to graft successfully in March 2014. "By the summer of 2014 the young saffraan pear tree was already sporting beautiful leaves, and in the autumn it developed a few solid buds. In 2015, I expect blossom and the first fruits. We are still in an exciting phase. We are discovering more about the period during which the fruit is ripe, about the shape, the colour and the flavour. This data we can then compare with what we have previously known about the saffraan pear, which is not very much. Johann Hermann Knoops mentions the variety in his book Pomologia (a book about apples and pears) from 1758, in which he distinguishes between the summer and autumn saffraan pear. We are very curious to learn whether Knoops' descriptions are consistent with the pear from Cape Town. Also there are a few people in New York who knew the saffraan pear earlier, and we can draw on their experiences. Theoretically, it is also possible that 350 years ago, people ascribed an incorrect variety name to the saffraan pear tree from South Africa. In that case our search will begin again from scratch. "

Houtman also says "the saffraan pear curls in a certain way at the ends of the branches, allowing you to see where the new pear will appear. I welcome this saffraan pear, I believe I have now recovered all traditional North Holland pear varieties at last.

In the Pomologia Batava Van Noort from 1830, the saffraan pear has as many synonyms as 17:

Bon Chrétien d'Ete
Safran d'Ete
Summer Bon Chrétien
Summer Saffron-Peer.
Gratiole d'Ete
Gratiole di Roma
Summer Gratiole
Brabantse Gratiole.
Suyker-kandy-Peer
Kanjuweel
Herb-Kanjuweel
Marzipan-Peer.
Malvasier-Peer
Schager Virgo
Pharmacists-Peer
canelle
Cinnamon Pear

Van der Noort writes further: "Harvesting takes place in the second half of September and up to the beginning of October, they can be served as a pleasing table pear, but they must be used in good time, as they soon lose their delicious juices, and become distasteful. "

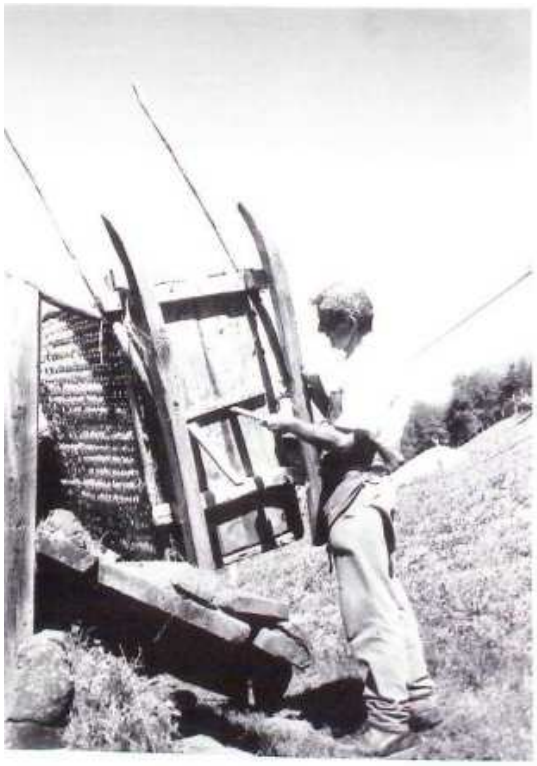
Magazine of the Pomological Association of North-Holland; Translation Obe bootsma

Henk Houtman *Pomologia Batava Van Noort*

Electronic information service of the SAVE Foundation www.save-foundation.net
office@save-foundation.net / Neugasse 30, CH-9000 St. Gallen, Switzerland www.agrobiodiversity.net

UN International Mountain Day: Wheat straw

The International Mountain Day on 11 December is focused products of the mountainous regions. With a wiki-based Internet platform SAVE collects traditional alpine knowledge. The aim is not only the conservation of rare breeds and varieties, but also of cultural techniques, which provide the basis for traditional products.



So wird der Strebschlitten getragen.
Beim Schrofl, Katharinaberg, Schnals 1994.
Aufnm. S. W. de Rachewiltz

Heidi makes us dream of the pure and healthy mountains. This cliché is not really true. Life in the mountains was marked by poverty and sometimes by the struggle for survival. How valuable any resource has been, shows the history of straw and its big appreciation it had, not just as a surface to sleep, but as food and fertilizer aid. At the same time it is an example of the fine line between unbearable poverty and resource exploitation, on which the people living in the Alps have been and still are today, but at a higher level including all the consequences: The exploitation of nature can quickly turn against the people themselves. Manure was very important. But to get it needs straw, which was often lacking. For centuries foliage was used as instead of straw as bedding and as supplementary feeding. The permission to use it is one of the oldest documented rights in the Alps. But not only foliage was collected. Until recently in various areas of the Adige Valley (in Tyrol) reed was collected, in swampy areas of the so-called “Streumöser”, as bedding.

Intensively used landscape

Why was there this straw deficiency? In the Middle Ages the mountain regions were much more densely populated. Farmers grew grain in an altitude of more than 1500 meters above the sea level. Where possible, agricultural land was cultivated since the yields were much lower than today. While cereals were grown at medium altitudes corn and potatoes grew on the valley floors. However, arable land needs more fertilizer than grassland - and hence manure and its starting materials, straw and cow dung is needed. Therefore, it was written into the lease contracts of the Middle Ages, that the manure is part of the court and forbidden to be sold under any circumstances. This was true even for entire villages. The most valuable, because limited supplies are not allowed to be sold: These were manure, straw and wood, like documented in the Val Münstair. To gain bedding, not only the leaves were used but also whole branches. Such forest outrage served harsh penalties, as the example of the village “Keller” at Bolzano shows. “Who vandalized or ignite the communal forest, his hand will be cut down without distinction of class". At the same time the use of the forest as grazing land and bedding resource was attacked systematically. The Tyrolean folklorist Ludwig von Hörmann remarked in 1909: "Nobody thinks about to plug the drawback (no forest management) by rational forestry. But a yet the eleventh hour has already begun to learn about.” The terrible ravages of 1908 in Alpbach and Zillertale are a gruesome exhortation: After heavy rains there were mudslides and floods, where several villages were buried. The entire Alpine region suffered in the 18th and 19th centuries from frequent floods. The reasons recognized by the authorities, lay the shortcomings of the forestry sector, but also in the overgrazing of the Alps, last but not least a result of the population increase. In order to resolve the problem, the introduction of management rules for the meadows, land improvement, river diversions and drainages were forced. During the past century, the cereal production in the alpine region decreased. Modern mountain farming includes also to know the mistakes of the past and to learn from it. This is done in many places. Some cultivation methods have been problematic, but at the same time, the adaptation of traditional breeds and varieties is very important. This awareness is important in times of climate change and the renaissance of local products, resources like traditional breeds and varieties become important again. Therefore, grain is grown at higher altitudes well again and is in great demand on the market. On www.fundus-agricultura.wiki SAVE Foundation is collecting traditional knowledge from the Alpine region. It relates to traditional breeds and varieties, but also cultural techniques and customs. Connoisseurs of Alpine culture are invited to share their knowledge.

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AEGIS: European Collection of unique and important Germplasm

Synopsis from an information paper from 23 October 2015 by J. Engels and L. Maggioni, ECPGR Secretariat, Bioversity International, Maccarese, Rome

AEGIS (**E**uropean **C**ooperative **P**rogramme for **P**lant **G**enetic **R**esources) entered into force in 2009 with the signature of the Memorandum of Understanding by ten ECPGR (**E**uropean **C**ooperative **P**rogramme for **P**lant **G**enetic **R**esources) member countries. By June 2015, 34 member countries and 57 Associate Member institutions had joined AEGIS. However, the growth of the European Collection has been slow. One of the possible reasons is that the benefits of AEGIS have not been sufficiently elaborated.

While assessing the benefits reported in 2009, it became apparent that the benefits are not equally relevant and applicable to various stakeholders. These reported benefits are reviewed here, taking into account the effects on stakeholders, and indicating for which stakeholder group a given benefit is of particular interest.

Perceived and principal benefits of the European Collection:

1. A clearly defined set of accessions that is flagged in EURISCO and is made available according to standard terms of access by the European Region, under the ECPGR umbrella.

2. High-quality germplasm, conserved in accordance with agreed technical standards together with high-quality and comprehensive data.

3. All accessions have been selected and designated by the National Coordinators and the Associate Members concerned and countries have formally placed these in the public domain.

4. Well-managed and documented sub-sets of accessions make up the European Collection for a given crop, with reduced or even no duplication, and established on the basis of agreed priorities and criteria.

5. Rationalization of the European conservation of unique and important germplasm could free up capacity of the Associate Members to undertake additional activities such as characterization and evaluation and sharing responsibilities or services, thus adding more value to the accessions in the European Collection.

6. Through the inclusion of germplasm material not listed in Annex I but treating it in the same way as Annex I germplasm, the European Collection countries directly contribute to the desired expansion of the coverage of the Multilateral System of the Treaty.

7. Participation in the European Collection provides a framework and stimulus for collaboration and cooperation and builds trust among genebanks, based on sharing of responsibilities and building on strengths.

Through their participation in the European Collection, maintained in a dispersed and virtual genebank, all countries and institutions accept the same responsibilities for the long-term conservation and contribute to the sustainable use of these precious resources, i.e. the unique and important germplasm accessions in Europe. Thus, countries and their institutions become part of a truly European system that is jointly operated and governed. Such an approach enables all members to make use of their respective strengths and to gradually eliminate the weaknesses, through capacity-building and possibly even specialization on those aspects and activities where the respective member has indeed a true comparative advantage. This is a true benefit to policy-makers and curators. The observance of established standards guarantees the delivery of a high-quality product, together with the related information obtained directly from the most relevant source, i.e. the very genebanks holding the accessions. Overall, the European Collection can be seen as a product of true and active participation of all European countries, resulting in a public product available to users worldwide. Such a win-win situation would also contribute to the objectives of the European Union.

Contact:

$C0_2$ control of foodstuffs coming soon?

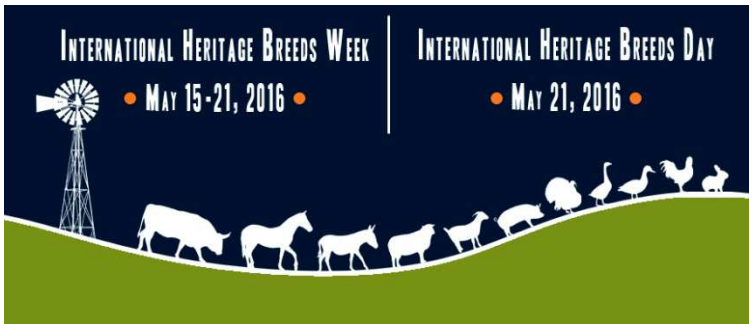
At the UN Climate Change Conference COP21 in Paris it becomes clear: the agricultural sector is, with regard to $C0_2$ reduction, part of the problem. But it could also be part of the solution. How is this could be achieved was one a discussion at the Landscape Forum 5 - 6 December in Paris.

Forestry is being destroyed rapidly. Thus, parts of the world's "green lung", which absorbs $C0_2$ from the air and binds it long-term, is destroyed systematically. While a decade ago even the small farmers in Brazil were criticised as forest destroyers, today large agricultural companies in Indonesia are identified as such. They burn down millions of hectares of forest, transforming the landscape into an ocean of oil palms. However, there are many losers: the air is so thoroughly poisoned that at some days in Indonesian cities, a dense, harmful, orange smog arises, pushing the visibility to below 50 meters. The indigenous population is displaced and rare species like orang-utan are losing their habitat. For about 10 years, the excessive palm oil industry has been harshly criticized, but with little outcome. The radical destruction promises quick money. Millions of hectares of agricultural land or forest land are used with oil palm and sugar cane for energy production, beans like soybeans for animal feed and fast growing trees for paper production. Large investors and agricultural companies have become key actors for a $C0_2$ intensive agriculture. This needs to be changed, because more than 800 million people face starvation.

The situation is different with medium and small farmers. In Africa, agriculture is still the largest irreplaceable job machine. Medium and small farmers can contribute to reduce $C0_2$ emissions through sustainable agriculture. But investment in sustainable agriculture, soil conservation and reforestation programs are long-term investments and concessions for future generations. A fast buck is always at the expense of the environment and cannot be sustainable. Therefore, investors are reluctant. But there are rays of hope. Pascal de Petrini, executive vice president of the Milk Group Danone, announced in Paris a life-cycle management of its products. In other words, Danone will prevent $C0_2$ emissions, not only within its own production, but also among its suppliers. The inclusion of $C0_2$ emissions in the food price becomes a growing topic in the climate negotiations. Therefore, many projects aim to use native plant livestock and crops for sustainable food production, because they are better adapted to local conditions. This corresponds to an urgent request of the persons concerned. "Respect for traditions and needs of local people is a lesson that we have learned in the introduction of new technologies in agriculture", Iain Henderson, Environmental Finance at UNEP Finance Initiative, said.

Newsflash

International Heritage Breeds Week

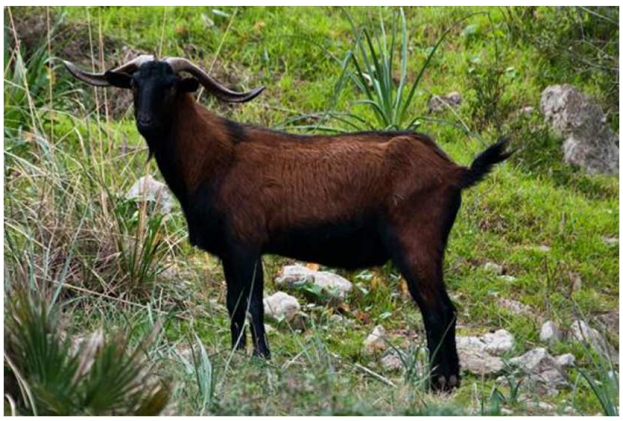


The Amercan Livestock Conservancy launches the international Heritage breeds Week 15-21 May 2016. Included is the International Heritage Breeds Day on May 21, 2016.

The International Heritage Breeds Week aims to raise awareness about endangered heritage breeds of livestock and poultry. Many of our traditional livestock breeds have been replaced with more "improved" breeds in modern animal agriculture, at the expense of a massive loss in genetic diversity.

The International Heritage Breeds Week aims to raise awareness about endangered heritage breeds of livestock and poultry. Many of our traditional livestock breeds have been replaced with more "improved" breeds in modern animal agriculture, at the expense of a massive loss in genetic diversity. Worldwide, about one domesticated livestock breed every month is lost to extinction. International Heritage Breeds Week will be held during the third full week of May each year, with the International Heritage Breeds Day being held the ending Saturday of that week. Participating organizations can use prepared promotion material, host any event or send out press releases and information to the public. For more information and registration see: http://heritagebreedsweek.org/.

The Southwestern fringe of Europe as an important reservoir of caprine biodiversity



Portugal and Spain, with six and 22 officially recognized caprine breeds, encompass 25 % of the European Union goat census. Many of these populations have suffered strong demographic declines because of competition with exotic breeds and the phasing-out of low income rural activities. In this study, consequences of these and other demographic processes on the genetic diversity, population structure and inbreeding levels of Iberian and Atlantic goats was investigated with 975 individuals of 25 officially recognized breeds.

Conclusions: High diversity levels and weak population structures are distinctive features of Portuguese and Spanish breeds. In general, these local breeds have a reduced census, but are still important reservoirs of genetic diversity. These findings reinforce the need for the implementation of management and breeding programs based on genetic data in order to minimize inbreeding, maintain overall genetic and allelic diversities and breed identities, while at the same time taking into account the within-breed genetic structure. Download: http://www.gsejournal.org/content/47/1/86

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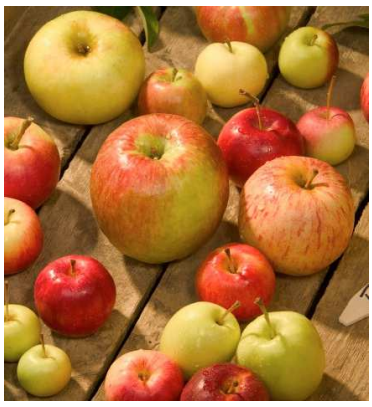
Malus sieversii from USDA a Widespread Malus data compilation



The Malus sieversii collection of the USDA collection in Boulder County, Colorado, has enormous genetic diversity, and could serve as a useful reservoir of genes for use in breeding projects. There is already work being done in academia and by small numbers of nursery professionals and/or hobbyists. Therefore USDA Malus siversii collection in Boulder County, Colorado, makes available a widespread Data compilation: https://www.widespreadmalus.com/

The first internationally recognized certificate of compliance is issued under the Nagoya Protocol on Access and Benefit-sharing

United Nations Decade on Biodiversity

The first internationally recognized certificate of compliance was issued on 1 October 2015, following a permit made available to the Access and Benefit-sharing (ABS) Clearing-House by India.

Under the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization, Parties are to issue a permit or its equivalent at the time of access as evidence that access to genetic resources was based on prior informed consent and that mutually agreed terms were established. Parties are required by the Nagoya Protocol to make information on the permit or its equivalent, available to the ABS Clearing-House for the constitution of the internationally recognized certificate of compliance.

The permit was issued by India's National Biodiversity Authority, the competent national authority under the Nagoya Protocol. The certificate then constituted through the ABS Clearing-House serves as evidence of the decision by India to grant access to ethno-medicinal knowledge of the Siddi community from Gujarat to a researcher affiliated with the University of Kent in the United Kingdom. The researcher can now demonstrate that s/he has respected the ABS requirements of India when using this knowledge. See: https://www.cbd.int/abs/

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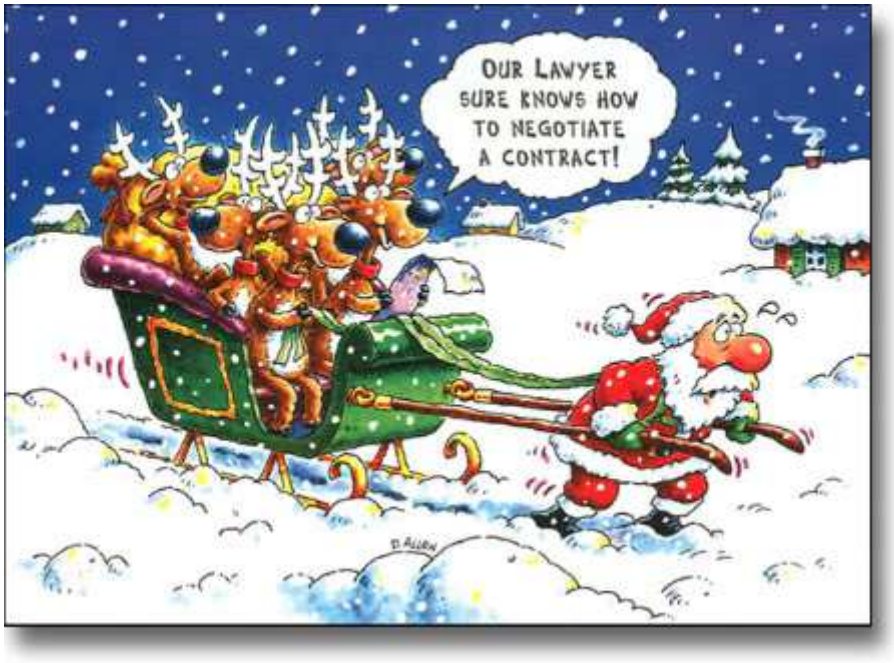
Events can be found in the calendar under: www.save-foundation.net



The SAVE staff wishes

a full year with Happiness and Success!

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