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Domestic Rare Breeds and Animals – Assisted Activities: a new approach for conservation

Antonio Pizzuti, Natura per Tutti Onlus Organization, Italy

Activities with donkeys at the Ladispoli farm (Rome, Italy)

In Europe, many indigenous, local breeds of domestic animals are at risk of extinction and the European Union encourages the conservation measures of the domestic varieties, also stimulating the growth of multi-functionality activities in agriculture, which includes all activities that increase the social role of the agricultural sector.

Educational Farms are recent realities in the multifunctionality evolution of farms in Italy, developed especially in the last two decades. Educational Farms are farms that people can visit and learn about domestic animals and breeding cycles, getting in touch with the rural world, which is today so far from the daily activities of most of the people, accustomed to urban contexts.

In addition to the Educational Farms, in recent years the experiences in the US and in the Nordic countries of Europe were used to develop Social Farms also in Italy. One of the main activities of these farms, if not all, is conducting therapeutic rehabilitation aimed at people with disabilities. Often disabled people are included in the production process.

Today some therapeutic activities with pets as facilitators are used to achieve results in the field of rehabilitation and are recognized by the international medical community in particular Animal-Assisted Activities AAA and Animal-Assisted Therapy AAT.

In Italy, social farms are still in a pioneering phase. There are no pre-established models and the different realities of social farming have tried to put together some good practices referring to a personal field experience rather than to coded models.

The model proposed

The social farm in Ladispoli (Rome, listed in the European ArcaNet under: www.arca-

net.info/pages/detail.asp?id=304926&sprache=en&organisation=FATTORIA%20DEGLI%20ANIMALI) is an agricultural centre, realized on 2 ha area, in which domestic animals belonging to rare breeds in danger of extinction are kept. Mammals are kept such as the Sardinian donkey, Ragusano donkey, Sopravissana sheep, Girgentana goat, Little Aries rabbit, Leprino rabbit of Viterbo and several breeds of chicken and pigeons such as Ancona chicken, Paduan chicken, Sicilian Buttercup chicken, Leghorn chicken, Florentine pigeon, Modena's Triganino pigeon and Reggianino pigeon. The farm activities besides breeding are based on two main actions: environmental educational activities for schools and rehabilitation workshops dedicated to people with disabilities (Animal-Assisted Activities, AAA).

Sensitive experience with a kid

The Farm has developed a functional model, which consists in realizing together reproduction of rare breeds, educational activities and social farm activities. The innovative idea is to employ rare domestic animals in rehabilitative activities, encouraging their dissemination and conservation.

Using rare breeds in the AAT and AAA activities contributes to their conservation and dissemination. In fact, one of the main causes of extinction of domestic breeds is their low use for human activities. Many varieties have not a productive value anymore (for example the sheep Sopravissana) or are no longer used for work (for example the Donkey Ragusano); the result is their numerical reduction with the risk of permanent disappearing. Their re-employment in rehabilitation therapies and activities may contribute to the increase of the population of these breeds beyond the edge of survival values. In this case, they also provide many sub-products that benefit society.

On the Animal Farm Animal-Assisted-Activities are considered. This includes all actions related to the interaction between man and animals, in particular the AAA daily activities of animal care (feeding, cleaning of housing, etc.), but also particular exercises in specific workshops (work schemes with donkeys and other animals).

The workshops are organized by the staff (agronomists, psychotherapists, ethologists, farmers). The daily activities aim at people with medium and severe mental disabilities.

The workshops are structured in two levels of activity: routine work (in which is included care and handling of farm animals) and creative work moments (that involves the participants to the construction of facilities for the farm: fences, greenhouses, feeders, etc).

Results

At the end of the breeding season, thanks to the work carried out in the AAA laboratories, the surplus offspring is given to people who want to establish small breeding groups for family use. In this way, in addition to the animal breeding and the therapeutic programs, the farm encourages the conservation of rare breeds through the handover of offspring to family farms.

In 14 years of activity (2001-2015), the Animal Farm has carried out environmental education activities with endangered native breeds for at least 30'000 people (of which about 70% are school children). On average yearly about 60 disabled persons participate in the workshops of animal-assisted activities. More than 3'000 animals were bred and free distributed throughout the country (78% of these are domestic birds, the remaining mammals).

The Animal Farm has established itself as a good practice model over the years repeatable in other rural areas

Poultry feeding

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ARCHE NOAH - Our heart beats for diversity

Marion Schwarz, Arche Noah, Austria

Arche Noah, the latest Partner in the SAVE Network introduces itself and its work in this article:

Crop diversity has developed over generations. People have cultivated and farmed plants for thousands of years, resulting in an incredible diversity of locally used and adapted crops. There was – and, in many places, still is – a close relationship between people and their plants. But crop diversity is severely threatened: 75 % of all crop varieties have become extinct since 1900. One of the main reasons is the industrialisation of agriculture. Commercial farming uses only few species and varieties. Only about 100 crop species (of more than 4,800 known species) make up 90 % of food harvested globally. Laws, corporate interests, consumer behaviour, environmental disasters, armed conflicts, the disappearance of small-scale farming, among other factors compound the danger to seed diversity on a global level.

Conservation of diversity for a liveable future

From today‘s perspective, it is impossible to say which plant species or cultivars, or “genetic resources”, will be “important” one day. Therefore it is irresponsible to give up these precious rare crops. We must preserve and continue to develop seed diversity and knowledge of cultivation. We have to make them available, to safeguard not only the basis of agriculture, but also the richness of flavours and goodnesses, that affect our quality of life.

Seed Collection

In the ARCHE NOAH seed archive, about 5500 different cultivated plants are waiting for their next performance. Starting with the first collections of early ARCHE NOAH pioneers such as Nancy Arrowsmith and Reinhild Frech-Emmelmann, one of the largest, private, crop-plant seed-banks in Europe began development in 1990 through active exchanges between members and other collections, as well as local exploration. The ARCHE NOAH seed archive preserves seeds and vegetative planting material of about 6,000 endangered vegetables, grains, and other crop plants, with about 300 in living field collections. In the ARCHE NOAH certified organic gardens, they are sown, tended, and fresh seeds are harvested, with due regard to the typical plant traits. The only way to ensure crop diversity in the long term is to regularly and skillfully regenerate the seed stock. Fresh, strong seeds and well-founded knowledge of plants are both the beginning and the end of the cycle. And we are happy to pass this knowledge on!

Fruit Collection

Fruit trees live for a long time, but not forever! Only collecting missions, careful characterisation, maintenance in several places and passing on knowledge can prevent very rare local varieties from extinction. Due to the long life span of fruit trees, many local varieties have survived over time, although little importance has been given to them. However, most of these trees today are old and urgently need to produce “offspring”. ARCHE NOAH pomologists – as fruit experts are known – research, document, advise, and graft, in order to halt the impending loss of old varieties. The ARCHE NOAH fruit collection currently encompasses several fruit conservation orchards with hundreds of trees and berry bushes all over Austria, as well as a fruit database with more than 900 varieties on 3,200 mapped trees.

A wide network

All cucumber varieties brought together in one place, from Armenian cucumbers to Znojmo

cucumbers? That's not enough for us. ARCHE NOAH also works towards decentralised conservation of rare crops. ARCHE NOAH works closely with crop guardians. These are members of the association who multiply heirloom varieties from the ARCHE NOAH seed archive, as well as plants they have "gathered" in their local area, in their home gardens or fields. The reason for cultivating heirloom varieties is usually idealistic – "so that diversity is not lost". However, motives can also include political commitment to food sovereignty, enjoyment, enthusiasm for diversity, and passion for collecting. The gardeners themselves determine their own level of involvement – beginner, crop guardian, or crop-adopters. Some only save seeds for their own personal use while others cooperate with the seed archive, or offer their expertise in the variety handbook. A network of active gardeners thus ensures that diversity is preserved through cultivation.

A voice for diversity

Plant diversity has a lot to do with politics! Parliaments and governments set the rules for what happens on our fields, in our gardens and on the markets. Should Emperor Friedrich abdicate? This bean variety is one of countless rarities in the ARCHE NOAH seed archive. According to the proposed EU seed marketing legislation, it is not standardised enough for the seeds to be sold. It must remain a "niche" product. However, spreading such rare crops is very important: the industrialisation of agriculture has entrenched the standardisation of fruit, vegetables, and grains and led to a huge loss in diversity. In addition to seed marketing legislation, patents and new breeding techniques also threaten diversity. We therefore need to campaign in Austria and Brussels. Seed policy must safeguard diversity, promote healthy food and the rights of small farmers.

Our network is international

Through cooperation, we can simply achieve more. United in diversity – the European Union's motto also applies to ARCHE NOAH's international network. The seed initiatives in Europe work differently, spread many different crops, and face different challenges. Yet we are working towards the same goal; our aim is to bring diversity back to gardens and fields, and to maintain diversity where it already exists. "Old varieties" are undergoing a Renaissance, especially in countries affected by the economic crisis. Dozens of organisations are cooperating and learning from each other in the fields of conservation work, documentation, education, and policy. At the same time, ARCHE NOAH is also involved in several EU diversity projects.

Research & Breeding

Plants do change. In addition to preserving rare crops and heirloom varieties, ARCHE NOAH want to contribute to the development of diversity. In order to ensure the long-term survival of crops, the adaptation of plants is also necessary. We can only achieve our goal – conservation trough use – if these old varieties are again cultivated, produced and used in our gardens and on our farms. So you would like to grow a tomato variety from the previous century? A heirloom variety might not be entirely suitable for today's growing conditions (climate, soil, various diseases) or users' demands (such as taste). In order to enhance such heirloom crops, ARCHE NOAH is dedicated to participatory breeding activities: selection, user-oriented description, and close collaboration with gardeners and farmers contribute to the development of suitable and marketable crops

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Agrobiodiversity of the Maltese Islands

Darryl Grech, Breeds of Origin, Malta

Generations of breeding have given rise to a number of breeds and species that are optimally adapted to their specific environment. Despite the small size of Malta with just 316 km2 land, it still has a rich biodiversity. A number of indigenous breeds and species can be found in our islands, these include goats, sheep, cattle, poultry, bees and several plant and tree species.

Today, indigenous breeds and plant varieties are increasingly threatened through commercial agriculture and consumption habits. Most of our breeds and species are facing extinction, for instance there are less than 50 remaining specimens of Maltese cattle left.

"Breeds of Origin" was established in March 2016, with the aim to protect and conserve the indigenous breeds and native species of our islands. These breeds and species are an integral part of the cultural heritage of the Maltese islands.

At the moment due to limited funds, we are concentrating mainly on conservation projects for the Maltese goat, Maltese Black chicken breed and our native honeybee subspecies, *Apis mellifera ruttneri*.

Indigenous Maltese Goats

The Maltese goat breed is considered to be of Middle Eastern origin. Historically, goats were introduced to our islands thousands of years ago, to supply the islands with fresh milk. Goats were preferred to other ruminants as they adapt themselves to various habitats and still produce good milk. Originally this breed was characterized by high milk yield and high fertility rate.

In Malta, goat breeding is focused mainly on milk production and its subsequent processing on dairy products, namely cheeselets, by breeders. Nowadays goat meat is mostly consumed by ethnic minorities living in Malta.

Once they dominated our countryside and hillsides while grazing. Pre-war Malta was a goat breeding country which at one time it is recorded to have had some 70,000 goats.

Up to the early 1950s, the herdsman would take his flock round town and village streets milking the goats at the customer's doorstep. Every family bought a day's supply, for the round took place every day of the week, Sunday included.

Although goat breeding has a rich history and tradition in Malta, the Maltese goat population is on the verge of extinction. At present, there are roughly 400 indigenous Maltese goats in around 20 flocks distributed throughout Malta and Gozo. As goats of this breed have remained in isolation for several years, they are highly inbred. Furthermore, the introduction of other commercial goat breeds such as Saanen and Alpine, has resulted in crossbreeding and hybridization of the already small gene pool of Maltese goats. Goats of the Maltese breed are at present chiefly kept by farmers who have this particular breed at heart.

Due to lack of proper selection, together with crossbreeding, this breed's potential has been hindered, and their economic potential remains to be explored.

The total number of goats has been decreasing each year and that total will continue to decrease even further in the future. Goats are also becoming a less popular choice for farmers due to the fact that, from this year Maltese farmers having sheep could apply for European subsidies while none were allocated for goats. Today there are only 12 farms having over 50 goats in Malta and the goat population is less than 5000.

A substantial number of farmers with the last remaining flocks of Maltese goats have been identified. We are starting a breeding program to increase the current population of indigenous goats and minimize inbreeding.

Maltese Black chicken

The Maltese Black was developed as a rustic, dual purpose breed used for producing eggs and meat for consumption for rural families.

This black feathered breed is closely linked to other Mediterranean chicken breeds. It is originated in 1934 from the Maltese Department of Agriculture using locally available, indigenous stock of entirely black feathered chickens. A selection procedure was undertaken to standardize and define the breed. Certain chickens could produce over 200 eggs per year. In 1938, the prolificacy of this breed was already recognized and documented by the Commonwealth Bureau of Animal Breeding and Genetics, stating that this breed had superior fertility to imported breeds. The breed standard was presented to both a local and international audience in 1950.

In the 1960's, the Maltese Black started to be replaced with commercially available stock. The breed became marginalized and restricted to small dispersed populations. An initial attempt for an in-situ conservation of the Maltese Black started in 1998 with a small flock of about 400 chickens that were later relocated to the Agricultural Research and Development Centre in Malta with the intention to maintain a nucleus flock as a measure for a future long term ex-situ conservation strategy. Due to the lack of appropriate resources and knowhow required to manage such projects the progress achieved is very limited and has, over the years, served mainly as a source for the procurement of genetic stock to amateur breeders. The lack of a defined breed standard has further hindered any attempt for objective breeding, multiplication and selection.

This breed is critically endangered with only 96 breeding adults left. Also, the present Maltese Black population has drifted away from the original standard, and in doing so, has lost its rustic characteristics.

Recently a comprehensive standard for this breed has been developed that will run as bench mark for comparison in future breeding and selection programs.

A conservation program for the Maltese Black is underway focusing on the recuperation of this small genetic pool, appropriate mating schemes to breed back to standard while minimizing inbreeding and the setting up of a herd book to catalogue pedigree.

Once re-established, the dual purpose nature of this breed will once again occupy its niche within the Maltese agro-environment and compliment the national agricultural patrimony and heritage.

Maltese honeybee, *Apis mellifera ruttneri*

Malta's native honey bee *Apis mellifera ruttneri*, is named after Professor Friedrich Ruttner.

This bee subspecies of relatively black colour is more closely related to the North African (*Apis mellifera intermissa*) than to the European bee subspecies. The *Apis mellifera ruttneri* has evolved and adapted superbly to the environment and harsh climatic conditions of the Maltese Islands. It also defends itself supremely well against local pests like wasps and hornets. Furthermore, astonishingly, solely by natural selection, colonies have exhibited some resistance to Varroa, to a certain extent.

Despite possessing these incomparable and beneficial traits, some beekeepers are still opting in favour of the import of non-native honey bees and are threatening the conservation of this unique bee.

Moreover, last year a foreign apiculturist brought many nucleus foreign bee colonies to the islands to

produce queen bees for export. Such intensive beekeeping will ultimately result in the total hybridization of the already small and critical native bee genetic pool, apart from increasing the risk for spread of diseases and competition for the already limited foraging area available.

Beekeeping in Malta is one of the oldest traditions. In fact, the Greeks and Romans called the island Melite which derives from the Greek word *meli,* meaning honey. If things don't take a drastic turn for the better soon though, part of the apicultural heritage will end up as history as the native bee will be lost forever.

Despite facing an uphill struggle, Thomas Galea a concerned and enthusiastic Maltese beekeeper and one of the administrators of Breeds of Origin, got in touch with SmartBees, a collaborative research project on bees across Europe. Dr. Aleksandar Uzunov of SmartBees has proved to be a great ally for this project. Together, in collaboration with the University of Malta and the Maltese Beekeepers Association, a strategic plan to protect the *Apis mellifera ruttneri* has been set in motion. Our main goal is to safeguard this endangered and unique bee species and ultimately ensure the maintenance of the already limited biodiversity.

Apis mellifera ruttneri is more than just a bee, it is OUR bee!

We are convinced that indigenous breeds and species are part of our national heritage and it is our obligation to ensure their survival. Extinction is forever!

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TREASURE a H2020 Research and Innovation Project on Local Pig Breeds

Marjeta Čandek-Potokar, KIS, Slovenia

Local pig breeds, autochthonous to different European regions, represent a heritage of biodiversity. Their conservation nowadays is often assured through special policy measures (subsidies) and via gene banks. In order to be self-sustaining, the socio-economic benefits of agricultural usage of these breeds should be promoted. The key innovation potential of TREASURE resides in the idea that sustainable pig production systems can be built on local pig breeds, locally available feeding resources and traditional products which comply with societal demands for biodiversity, environmental protection, local food chains, animal welfare and consumer demand for high quality and health benefits of the products.

Rationale of TREASURE

After the 2nd World War, agricultural systems in the western society undertook an "industrial strategy" of intensification, specialisation and large scale production. Many autochthonous (local) pig breeds that were not profitable became endangered. In the context of the internationally binding conservation of biotic diversity, the interest for autochthonous (local) breeds was revived. However, these breeds are still largely supported by special policy mechanisms in order to ensure their conservation. The best conservation strategy is the one that makes the breed self-sustaining without the use of external subsidies. In theory, local pig breed should be self-sustainable by sale of their products (characterized by an extra added value) which, in return, assures breeding of a sufficient number of animals to have an adequate genetic diversity. This condition is rarely true in the local pig breeds in Europe. A sustainable use of local breeds is possible with better exploitation of their image and reputation as well as quality attributes associated with their products. Therefore, the activities to increase market potential and value of products are the key strategy in support of in situ conservation of the breed. Traditional pork products represent culinary heritage of the regions and have an excellent image by consumers due to specific quality, which cannot be obtained with pigs from conventional intensive husbandry. Exploitation of local pig breeds in their specific production systems providing products with quality demanded and appreciated by the consumers is the basis for sustainable value chains.

Basic information
•Start of the action: 01/04/2015
•Duration: 48 months
•25 partners from 9 countries
Coordinator:
Agricultural Institute of Slovenia (KIS)
Web: http://treasure.kis.si/

Challenge of TREASURE

The economic potential of local or traditional breeds and their production systems is far from being optimally exploited and represents a challenge and opportunity of pig sector in the future. This is also the key challenge set for the project; to improve the knowledge, skills and competences necessary to develop existing and create new, sustainable pork chains based on European local pig genetic resources (local breeds), which correspond to the highest consumer demands for quality and health of pork products, and to the societal demands regarding animal welfare, environment and rural development. To improve market potential of high quality products from local pig breeds it is essential to gain scientific proof of their singularity, productivity and product quality, as well as to develop traceability/authentication tools and to perform relevant assessments of their nutritional needs, local feed resources, management practices, impact for environment and consumer acceptability, and marketing strategies adapted to regional circumstances which is all being assessed in TREASURE.

The project started a year and a half ago and in this first period the genetic material has been collected and methodological and experimental setup assured for further project activities. An important focus was also on communication to varied public and stakeholders to give an identity to the project and to raise general public awareness about the project and its goals. The project is open to new collaborations with stakeholders dealing with local pig breeds and their products, in particular with the protagonists of the breeds not covered by the project.

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European interventions: Calabria's autochthonous Breeds

Floro de Nardo, R.A.R.E. – ARA Calabria

Calabria is the toe of Italy's geographical boot. It borders on Basilicata in the north and is surrounded by the Mediterranean Sea. Due to its strategic positioning with the two coastlines along the Tyrrhenian and Ionian Seas, the region was occupied by different conquerors over the time. Greeks, Romans, Teutons, Goths, Lombards, Franks, Sicilians, Saracens, French, and Spaniards have left a mark on the language, agriculture and cuisine. The conservation of rare livestock breeds in Calabria underlies strict rules given by the regional government and according to the EU rules. This system of support and control is explained in the following article of the Italian partner R.A.R.E. of the SAVE Network. This example might be of interest also for other European Regions:

On the basis of the data of the National Data Bank (BDN) for the registration of husbandry, which was established by the Ministry of Health of Teramo at the National Institute of Animal Services, in the Region Calabria the data as shown in table 1 are registered:

Ethnographically, the cattle breed Podolica, the goat breeds Rustica di Calabria, Nicastrese (picture) and Capra dell'Aspromonte are most important. The goat breeds are recognized by the Ministry. The name of the pig breed Apulo-Calabrese was changed via decree of the Ministry of Agriculture and Forests in "Nero Calabrese" or

Species	Number of animals		Number of Farms	
	Calabria	Italy	Calabria	Italy
Cattle	113.648	5.533.297	6.895	130.316
Buffaloes	1.522	387.792	12	2.341
Sheep	271.597	7.215.857	7.102	92.985
Goats	150.792	1.157.863	4.401	55.928
Pigs	46.235	8.425.531	5.299	138.520
Horses	6.276	375.511	2.979	142.739
Asses	497	66.984	63	14.001
Mules	32	5.944	9	1.131

"Calabrese". Regarding sheep, the breeds Gentile di Calabria (comes from Gentile di Puglia) and the Sciara breed occurs in relatively small numbers.

According to the Rural Development Program 2014 – 2020, the Region Calabria has forecast an intervention to protect autochthonous breeds in the region.

Most important for conservation is legislation for safeguarding autochthonous breeds in extensive breeding systems. The goal is to save breeds with higher reproductive performances and ubiquity. For this, the region Calabria identified the following: breeds: Podolica cattle; Nicastrese goat, Rustica di Calabria goat and Capra dell'Aspromonte, Apulo-calabrese pig, Ragusana and Martina Franca donkeys and Gentile di Puglia sheep.

Calabria goat and Capra dell'Aspromonte, Apulo-calabrese pig, Ragusana and Martina Franca donkeys and Gentile di Puglia sheep.

The national livestock census also includes the numbers of breeding males and females. The Classification of the Calabrian breeds is shown in table 2 (established by "Consorzio per la Sperimentazione, Divulgazione e Applicazione di Biotecniche Innovative" (Con.S.D.A.B.I.), the FAO National Focal Point):

Species	Breed	Reproductive females - national number	Source	Category (Con.S.D.A.B.I.)	Control body
Cattle	Podolica	4.253	Herd book	Vulnerable	ANABIC/ARA
Pig	Apulo-Calabrese	465	Population Registry	Demaged	ANAS/ARA
Goat	Nicastrese	4.541	Population Registry	Vulnerable	ASSONAPA/ARA
Goat	Capra dell'Aspromonte	7.424	Population Registry	Rare	ASSONAPA/ARA
Goat	Rustica di Calabria	9.844	Population Registry	Rare	ASSONAPA/ARA
Sheep	Gentile di Puglia	5.956	Population Registry	Rare	ASSONAPA/ARA
Asses	Ragusana	1.256	Population Registry	Vulnerable	AIA/ARA
Asses	Martina Franca	309	Population Registry	Demaged	AIA/ARA

ANABIC: National Association of Italian Beef-Cattle Breeders,
ARA: Regional Breeders Association of Calabria,
ANAS: National Association of Pig Breeders,
ASSONAPA: National Association of Pastoralism,
AIA: Italian Breeders Association.

Tab. 2: Status of endangered breeds of Calabria

The common definition of the endangerment of breeds According to FAO: The State of the Worlds Animal Genetic Resources for Food and Agriculture (2007, p 344 ff) is as follows:

- **Critical = No of ♀ <100**
- **Endangered = No of ♀ 101 – 1'000**
- **Critical maintained (vulnerable) = No of ♀ 1'001 – 5'000**
- **Rare = No of ♀ 5'001 – 10'000**

To get governmental subsidies the farmer in Calabrese region must:

- Make a commitment to keep the breed for at least 7 years and publication of the "ranking of endangerment" in the agricultural statistics.
- Pure-breeding, no crossbreeds
- extensive livestock farming
- To keep for at least 7 years an adult reproductive Bovine unit (ABU) identified in the Genealogical Register, Registration of offspring of the own endangered livestock breed in the Genealogical Register

The financial support is 200 €/ABU/year. ABU is defined in EU Reg. 1305/2013 (art. 28) and EU Reg. 808/2014 (art. 9), section 2, and annex II.

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Facts around Pulses

Source: http://joya.info

The United Nations General Assembly declared 2016 the International Year of Pulses (see SAVE eNews 3/2015). The "Year of Pulses" will end in the beginning of 2017. On January 18th 2017, the second "Global Pulse Day" will take place (see box). Pulses, also known as grain legumes, are not only of interest for the developing countries. But in dry areas of Europe like the Mediterranean and in the dry inner alpine valleys, pulses played and still play an important role in agriculture. For organic agriculture in mixed cultures with for example oats, pulses are of increasing interest. Here a definition and some facts are listed around these interesting crops:

Global Pulse Day
January 18th 2017 *will be the second Global Pulse Day, a global event to celebrate pulses and continue the momentum of the 2016 International Year of Pulses. Encourage people around the world to eat pulses on January 18th. Raise awareness on the multiple benefits of consuming pulses for people and the planet. http://iyp2016.org/*

- Based on the definition of "pulses and derived products" of the Food and Agriculture Organization of the United Nations, pulses are annual leguminous crops yielding between one and 12 grains or seeds of variable size, shape and colour within a pod, used for both food and feed. They include dry beans, dry peas, chickpeas, and lentils. The term "pulses" is limited to crops harvested solely for dry grain, thereby excluding crops harvested green for food, which are classified as vegetable crops, as well as those crops used mainly for oil extraction and leguminous crops that are used exclusively for sowing purposes.

- Lentil dahls are a hugely important staple across South Asia, while chickpeas have been found in Neolithic pottery excavated in southeast Anatolia. In the younger Stone Age, pulses had already crossed the alpine circle in Europe and went on towards the north. The use of pulses is as old as the use of grains. Through their high content of proteins, pulses have been and still are an ideal completion of grains in the human diet.

- Pulse crops are a critical part of the general food basket. They are a vital source of plant-based proteins and amino acids, proteins and fibre for people around the globe and should be eaten as part of a healthy diet to address obesity, as well as to prevent and help manage chronic diseases such as diabetes, coronary conditions and cancer; they are also an important source of plant-based protein for animals.

- In addition, pulses are leguminous plants that have nitrogen-fixing properties which can contribute to increasing soil fertility and have a positive impact on the environment.

- They are most popular in developing countries, but are increasingly becoming recognized as an excellent part of a healthy diet throughout the world.

- Pulse crops are one of the most sustainable crops a farmer can grow. It takes just 43 gallons of water to produce one pound of pulses, compared with 216 for soybeans and 368 for peanuts. They also contribute to soil quality by fixing nitrogen in the soil.

- Up to 25% of pulses are used as feedstuff, particularly for pigs and poultry. As a steady source of nutrition, feed for animals, and soil sustainability, pulse crops play a major role in food security, a role which will only grow in the future.

- In the foreground of breeding programs the improvement of the quality of the seeds by increasing the proportion of essential amino acids, the reduction or elimination of harmful or toxic substances and the tolerance or resistance to parasites are in the foreground The Adaptation to different climatic conditions as well as the improvement of performance-enhancing properties, such as stability, space resistance, early maturity, etc. are also of great importance.

Newsflash

40 years of SZH (Stichting zeldzame Huisdierrassen)

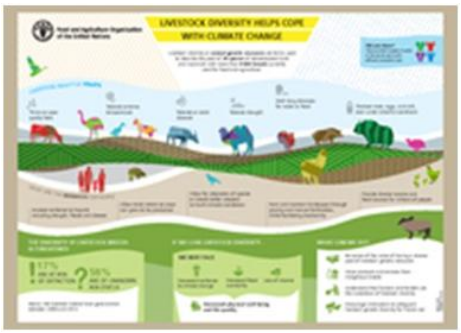
40 years ago, a small group of people in the Netherlands observed the disappearance of domestic livestock breeds in favour of international high performance breeds. Therefore, in 1976 the SZH (Stichting zeldzame Huisdierrassen) was founded in the Netherlands. One of the first actions of the young SZH was the rescue of the last stallion with Groninger blood, Baldewijn, from the slaughterhouse. He was taken to the Nienoord country estate and a new breeding was established. In the meantime much has happened. The SZH is still acting tirelessly and professionally in the Netherlands for the conservation of the original Dutch livestock breeds as a living cultural heritage and integral part of society.

The SZH was also a partner of the first hour of SAVE Foundation. In the meantime, the SZH, in cooperation with the Dutch organization for the conservation of crops, De Oerakker, runs the SAVE network office in Wageningen. We congratulate and look forward to further years of commitment and a united front for the agrobiodiversity in the Netherlands and in Europe.

No Patents on Seeds – No Patents on Beer!

"No Patents on Seeds", a coalition of several NGOs and initiated by the "Berne Declaration" (now “Public Eye”) notified three new patents of the Carlsberg Group on beer covering barley plants derived from conventional breeding, their usage in brewing as well as the beer as the end product. Two of the three patents granted by the EPO are based on random mutations in barley. Each of these patents covers the plants, the process for brewing, malt and wort and any drinks produced by this method. These patents are a crude violation of European Patent laws, which prohibit patents on plant varieties and conventional breeding. See the open letter to the Carlsberg group company here: http://no-patents-on-seeds.org/en/information/background/no-patents-beer

Livestock Diversity helps cope with Climate Change



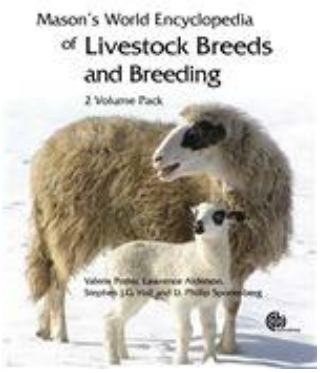
FAO published an infographic, which shows how livestock diversity can help us to adapt to a hotter and harsher world and make us more resilient to the hazards posed by climate change such as drought, floods and disease. Livestock diversity or animal genetic resources are terms used to describe the pool of 38 species of domesticated birds and mammals with more than 8 800 breeds currently used for food and agriculture. http://www.fao.org/documents/card/en/c/e98de5ad-9760-4d2b-892b-a5ec5067b3a7/

Alpine Nature 2030

The book "Alpine Nature 2030 - Creating [ecological] connectivity for generations to come" is published by the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB). It considers the creation of an ecological network in Europe to be crucial for achieving a global network of protected areas as envisaged in the Convention on Biological Diversity (CBD). In this context, the spatial connectivity of protected areas and transboundary protected areas play an important role in the implementation of the Alpine Convention. Article 12 of the Nature Protection and Landscape Conservation Protocol of the Alpine Convention.

ISBN 978-3-00-053702-8; Free download: http://www.naturwissenschaften.ch/uuid/9b106aa5-97db-5635-8941-a4197cf06b08?r=20161005181841_1477037180_8161a95e-8648-5ac5-9ec8-830a0b4a09e4

Mason's World Encyclopaedia of Livestock Breeds and Breeding



Mason's World Encyclopaedia of Livestock Breeds and Breeding describes breeds of livestock worldwide as well as a range of breed-related subjects such as husbandry, health and behaviour. This definitive and prestigious reference work presents easily accessible information on domestication (including wild ancestors and related species), genetics and breeding, livestock produce and markets, as well as breed conservation and the cultural and social aspects of livestock farming. Written by renowned livestock authorities, these volumes draw on the authors' lifelong interest and involvement in livestock breeds of the world, presenting a unique, comprehensive and fully cross-referenced guide to cattle, buffalo, horses, pigs, sheep, asses, goats, camelids, yak and other domesticants

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Christmas Apple

Before there were baubles for the Christmas tree, it was decorated with small red apples. The fruits were rubbed with a thin film of fat, so that they shone bright red, retained their plump form, and surpassed the warm, dry room air well.

Who had space in his garden planted a Christmas apple tree. This resulted in so many fruits in most years that relatives, friends and neighbours also benefited. Christmas apples are varieties which are as completely red as possible and are durable until at least the New Year. In addition, these apples should have an elongated stem, so that they could be fixed with appropriate ribbon on the tree. Christmas apples are often also very good as baked apples! See: http://fundus-agricultura.wiki/

THE SAVE TEAM WISHES A RELAXING HOLIDAY SEASON AND A FRUITFUL 2017