HORSES AND SUSTAINABLE DEVELOPMENT

HOW CAN THE HORSE BECOME A CARETAKER OF THE PLANET?

WHILE THERE IS AN INCREASING URGENCY TO SOLVE OUR SUSTAINABILITY CHALLENGES, THE SOLUTIONS ARE ALSO GROWING.

This report provides an overview of the sustainability challenges connected with keeping horses. As the authors, we hope to contribute to a holistic view of the situation and inspire others to work together to accelerate the transformation to a society that is sustainable for the planet, people and our domesticated animals.

We hope that this report will inspire even more active consumers and companies as well as partnerships to create a profitable and sustainable equestrian community, today and in the future.

The report describes what it means to become sustainable and provides tips on steps that we can take. It's important for you to choose the solutions that are best for you, the horse you take care of, your group of horses and your stable based on your own circumstances. Change comes about through many small steps, and we can all contribute in ways large and small to creating a sustainable and thriving world where our societies continue to develop.

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SUSTAINABILITY IN THE SPOTLIGHT — NOW IS THE TIME

All over the world, we've begun to see a transformation toward a better and more sustainable future. Like other countries in the UN, Sweden is striving to meet the UN Sustainable Development Goals (SDGs) by 2030.

The SDGs are 17 goals that address the climate, protecting nature and biodiversity on land and in the sea, access to food, fair working conditions, education and equality along with several other areas. In addition to these goals, there are also Swedish and international agreements on animal welfare.

We see more good examples of sustainable products and services in all sectors of society. Solar panels are the fastest-growing technology in the world when it comes to renewable energy; the sharing economy is on the rise; recycled materials in clothing, safe and beneficial working conditions in supply chains, and the share of sustainable foods are all growing more than ever before.

Individuals, companies and organisations are recognising the potential of sustainable development. Millions of people around the world are deliberately choosing more sustainable products and services. Today, sustainable development is the largest driving force behind business innovation, since it improves profits in both the short and long term.

Today, most large companies have active sustainability programmes, while small companies are a bit behind. Small companies are an important part of the Swedish business community.

As the number of horses rises, there is growing demand for more products, clothing and services for our activities, and the equestrian community's responsibility for contributing to sustainable development grows alongside this demand. A large portion of equine-related environmental impact occurs during the supplier stage, when feed or equipment is manufactured.

We all have the ability to contribute to a positive future through our consumption or investments. We can purchase fewer things of higher quality to reduce our impact on the climate and environment and help improve working conditions. We can use energy more efficiently, switch to renewable energy, and choose to take the train rather than flying or to cycle rather than driving. We all need to do our part if we are to continue enjoying the world we know, the only planet where there are horses.

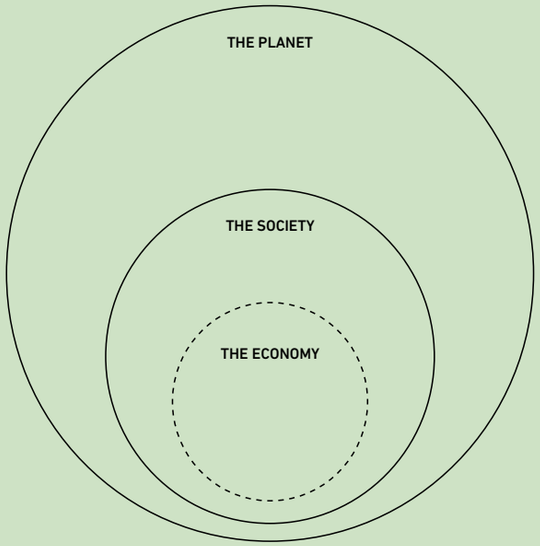
WHY IS SOCIETY TRANSITIONING TO SUSTAINABILITY?

Many people have enjoyed better and more comfortable lives since the 1950s. At the same time, we've also seen a dramatic increase in the negative environmental impact on our planet. The 1950s marked the beginning of the great acceleration, with curves that show a negative global environmental impact pointing straight up. In the 1950s, there were three billion of us — and now there are almost eight billion. In the future, we will probably share this planet with a few more billion people, who all need the Earth's resources. This means that we face significant challenges if we are to create a worthwhile and sustainable future.

Even if all of the solutions are not yet in place and the economic system does not always make things easy for people who want to do the right thing, acting sustainably will become more and more profitable in the future. Prices of raw materials are expected to continue rising, which means that economising on resources, being as efficient as possible and viewing waste as a new resource will pay off more and more. Laws and regulations will continue to become more stringent when it comes to activities that pollute our planet, which means in turn that it will also be profitable to avoid the impact of stricter legislation for example on chemicals or emissions from fertilisers.

This report demonstrates that keeping horses has both a positive and a negative impact on society and our environment. For example, several activities make a negative contribution to climate change, degradation of farmland, eutrophication of our lakes and oceans, poor working conditions, extinction of species and more toxic chemicals in our environment. If we are to thrive together today, and in the future, we need to ensure that we don't exceed the planet's limits and that we can prosper together.

In Sweden, we have a high level of knowledge and commitment to environmental issues, while at the same time we consume far too many resources. We belong to the middle class of this planet, which buys and discards a lot of things. Today, human beings are the largest force affecting the planet due to exactly this, everything that we produce and consume. You could say that this impact is our ecological footprint. Sweden is one of the top 15 countries in the world in terms of ecological footprint per person. if everyone on earth had an ecological footprint as large as we Swedes do, we'd need over four planets.



This also applies to equine-related consumption. We have seen five-fold growth in the number of horses in Sweden over the last 40 years, and today there are about 355,000 horses in Sweden. The Swedish equine industry has about SEK 31 billion in revenue per year, and provides around 17,000 jobs.

SUSTAINABLE DEVELOPMENT, BECOMING A CARETAKER OF THE PLANET

The most common description of sustainability comes from the Brundtland Report. According to this description, sustainable development meets current needs without endangering the ability of future generations to meet their needs as well.

We need to understand that our society and our economy depend on the planet's resources and services for everything we want to accomplish. If we are to thrive together in the future, we need to ensure that we don't exceed the planet's limits, work to achieve mutual trust, respect human rights and take good care of our domesticated animals.

HOW CAN THE HORSE BECOME A CARETAKER OF THE PLANET?

Being a caretaker of the planet means creating a sustainable society that takes the planet, people and our domesticated animals into account. A society that is more attractive, enjoyable, just and democratic.

Change is achieved when many people continue to contribute by taking different steps in a sustainable direction. It's important for you to choose the solutions that are best for you, the horse you take care of, your group of horses or your stable based on your own circumstances.

HORSES PROVIDE US WITH SO MUCH MORE THAN A RIDE

Horses have a positive effect on us, both body and soul. Sweden has at least a million horse lovers. Our horses contribute in a positive way to many issues related to social sustainability and at the same time we share many of society's challenges.

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The societal aspect of sustainable development is becoming more important. Trust is essential for maintaining a well-functioning, stable society over time. We can trust more easily if we feel that we're participating on equal terms, that we can grow, influence our situation, and manage our health, and that our individual contribution matters.

It's important that we all strive to be trustworthy, as individuals and as organisations. Respect for the equal value and rights of all people is fundamental for everyone engaged with these issues. In this respect, we have an advantage: we're all equal in the eyes of a horse.

A half million Swedes ride regularly and it's the third-largest youth sport in Sweden. Especially among girls. Riding is also the most popular sport for people with disabilities, who number around 4,000 riders. In the world of riding, boys and girls, men and women, meet on equal terms. Trotting and horse racing is the second-largest spectator sport. Stables and riding schools offer an environment that develops children's and young people's self-confidence and leadership skills. In particular, they have become a source of future female managers. Interest in horses as a public health resource is growing. Today, horses provide support in rehabilitation, habilitation, psychiatry, social care and special education activities.

Riding at a walking pace is the exercise equivalent of a light walk, while a trot is equivalent to a jog and a gallop to an intense game of football.

"Malmö Civil Riders Association strives to make the stable an inclusive place for everyone. Through cooperation with the municipality, engaged management and fantastic club members, they currently offer a cost-free open house four days a week for everyone who wants to spend time with horses, challenge themselves and learn more. Their open houses aren't just important for the young people who attend, but are also equally valuable for existing members and parents, and are an opportunity for new relationships and perspectives."

Winner of the 2019 Lövsta Future Challenge Environmental Award

But the stable can also have an underbelly of bullying and inequality. In Sweden, only one rider in ten is male, for example. There has also been criticism that the sport encourages materialism and a fixation on appearances. And just like in other areas, systematic efforts are needed to combat sexual harassment.

The Swedish Equestrian Federation trains 500 youth leaders per year, and a large number of Swedish riding clubs depend on devoted members and volunteers. This is a sector that benefits from knowledge transfer and learning, much of which is done on a volunteer basis during people's spare time. However, the equine industry is also the source of 17,000 full-time jobs.

A five-fold increase in the number of horses in Sweden over the last 40 years has created demand for well-trained employees. Today, there are several upper-secondary and post-secondary courses with various equestrian aspects, such as at the Swedish Horse Industry Foundation's (HNS) facilities. Working with horses can be a temporary side job or an entire career. In many ways, it's a risky environment with large animals and machines. Systematic efforts in safety, work environment and labour conditions are therefore extremely important, and research shows that there are challenges in these areas.

WHAT CAN WE DO?

Many references and tools exist, including the following:

- Under the headline "Secure in riding," the Swedish Equestrian Federation focuses on how we can prevent harassment and exclusion, thereby creating a trusting, safe and inclusive environment where we treat each other equally. One available tool kit is "Secure in the Stable." There are also initiatives focused on boys, who are a minority in the riding world.
- "Fair Stable" provides knowledge and tools for combating sexual harassment in riding. Stables can display a "Fair Stable" certificate after completing the program.
- "Certified Horse Facility" is a certification scheme for the equine industry developed by HNS and LRF Horse, the horse division of the Federation of Swedish Farmers (LRF). The certification helps stables meet legal work environment, horse keeping and environmental requirements.
- The Organisation for Horse-Based Initiatives (Organisationen för hästunderstödda insatser, OHI) strives to improve knowledge and education about horses as support for therapeutic and educational programmes in healthcare, psychosocial work and schools.
- The organisation "Gilla Häst" provides inspiration through human interest stories about the benefits of horses for people's well-being.
- There is plenty of information for workers and employers on HNS and the Joint Trade Committee for the Equine Industry's (HYN) websites, including suggestions for employee and work environment handbooks. The book "Secure horse employment" from Prevent includes a checklist that will help you review your own operation.
- If you work, or are looking for work, in the equine industry, make sure your salary is on the books and that the employer offers insurance, such as the "Fora package," which includes occupational injury insurance.

HORSES' WELL-BEING — WHAT DO THEY DO WHEN YOU'RE NOT THERE?

We have absolute control over almost everything in a horse's life — what it eats, who its companions are and its activities. This means that we bear a great responsibility for their well-being.

A horse needs the opportunity to meet its behavioural needs in order to thrive. Behavioural needs are certain behaviours that are essential for horses' well-being, mainly related to foraging, movement, rest and socialisation. The well-being of horses is a large topic. This section focuses on what we can do to provide horses with the opportunity to meet their behavioural needs during the time we are not with them.

The horse is a grass-eating herd and flight animal, and it devotes much of its waking hours to roaming and looking for feed. Horses in the wild roam up to 80 kilometres per day. They spend 16 to 19 hours a day eating and looking for food, with periods of rest no longer than three or four hours. Horses also eat at night, since they only sleep for three to five hours broken into short periods of approximately 15 minutes over 24 hours. The herd is a source of immense comfort for horses. They have strong connections to other horses, and physical contact with other horses is important for social cohesion.

Unmet behavioural needs can lead to disruptive behaviours and lifestyle diseases in horses. These include aggression, weaving, stall walking, apathy and cribbing. The horse's digestive system is designed to continuously process roughage in small doses. Unfortunately, today we are seeing horses afflicted by gastric ulcers, excess weight and colic, which could have been prevented in many cases through proper feeding procedures, access to movement, social contact and clean water. The risk of dental decay also increases if a horse does not receive enough roughage, since protective saliva is only secreted when a horse eats.

"We impose our own eating and steeping patterns as well as a way of thinking about horses that resembles how we humans socialise. A horse's digestive system is very different from that of humans and some other animals. Horses rest at completely different times and they need movement to be healthy. If we take advantage of this knowledge, we can keep our horses healthier, avoid a lot of stomach and intestinal problems, and get both companion and competition horses to do what we ask of them."

Anna Hassö, member of the Swedish national eventing team

WHAT CAN WE DO?

Review your horse's situation, how it can be stimulated and how behavioural needs can be met. Individual horses and groups of horses, as well as how they're used, may differ, but remember that all horses have the same needs.

Horses always need access to physical contact with other horses. Continuous motion in large paddocks reduces the risk of injury due to peaks of intense training alternating with low activity. Studies also show that the risk of injury does not increase when several horses are in the same paddock, as long as there is enough space. Most horses also thrive when they are allowed to graze for a period during the summer. This makes it possible for them to live naturally in a herd.

Roughage is important for horses. It leads to a long eating time, which suits a horse's stomach. Chewing provides peace and quiet. There is a great deal of research showing that horses, including those undergoing intense training, can obtain sufficient nutrients from eating only roughage. Of course, this requires the roughage to be analysed so that you know its nutrient content when deciding how much to feed.

Keep an eye on your horse's body condition using the Henneke horse body condition scoring system, for example. If a horse has a tendency put on weight and become fat, it should still have a long eating time but receive roughage with a lower level of nutrients, such as straw. Some have expressed a concern that horses that receive feed rations that are richer in roughage may develop hay belly. There is no reason for this concern if the roughage is nutritious and the horse is trained properly.

"We also let our competition horses out into a large paddock. It's important to us to allow our horses to move completely freely every day, to the greatest possible extent. They're used to this and it reduces the risk of injury. I've seen many times that more movement, especially moving freely, has been the key to solving a lot of problems that arise when riding."

Peder Fredricson, member of the Swedish national jumping team and owner of Grevlundagården.

GRAZING BY HORSES CONTRIBUTES TO BIODIVERSITY

Horses benefit from grazing, since they are able to engage in their natural behaviours such as roaming, finding their own feed and socialisation with other horses.

For several thousand years, people have kept animals to graze on land that was unsuitable for agriculture. Grasslands for grazing developed a rich flora, which in turn is a precondition for insects and birds. Our open landscapes and natural pastures have drastically decreased since then. These lands have become overgrown, especially when natural pastures and meadows are no longer used.

Natural pastures are some of our most species-rich landscapes, but grazing is required to maintain a diversity of plants and animals. This includes meadow flowers, insects, birds, stone mounds that house lizards, moss and larvae, and dead wood for mushrooms and larvae. If Sweden is to reach its environmental target of a rich landscape for cultivation, grazing on unused meadows needs to increase. This doesn't necessarily mean that we need more grazing animals – just that we need to let the animals we already have graze more, and in the right places. Horses' knack for grazing means they can be of great help supporting this biodiversity.

THE HORSE AS A CARETAKER OF NATURE

Horses thrive in large rolling fields where there is feed, water, sunshine and shade. This description fits many natural pastures. Horses are the best animals at grazing on overgrown, coarse grass, so open land that has not been grazed for a long time is quite suitable for horses. Other pluses for horses are that they prefer grass to plants such as flowers, and that many dung beetles thrive in their manure. Despite this, horses occasionally have a bad reputation as grazing animals due to their ability to graze very hard, quite close to the ground, making it easier for ground cover to be destroyed by trampling.

"At Tunarp, we run a riding school and riding camps with both horses and ponies. At our stable, the horses are able to go outside in a herd in large paddocks all year round. In the summer, they are outside grazing day and night. All of our horses graze on natural pastures, but the ponies graze only there."

Lisbeth Thafvelin-Karltorp, Tunarps Säteri.

WHAT CAN WE DO?

If you don't have access to your own natural pasture land, get in touch with nearby farmers. You can also ask your municipality or County Administrative Board if they lease grazing land or can refer you to landowners you can contact. They may also be able to share valuable information and knowledge. Consider that grazing for even a short time can make an important contribution to nature conservation and biodiversity.

For grazing by horses to promote biodiversity in natural pastures, it's important to plan the grazing so that the land is not trampled. It also mustn´t be fertilised with fertilisers such as manure or leftover feed, and the bark of valuable trees shouldn't be destroyed. It's good to have access to a variety of fields, so that it's easy to move the horses in time. One rule of thumb is that natural pasture land is only suitable for summer grazing, not as an everyday paddock.

Alternating horses, cattle and sheep, or allowing them to graze together, is beneficial and increases a field's pasture production while reducing parasite pressure. It's important to perform a faecal test to keep parasite pressure down. If the test shows that the horse needs to be dewormed, this should be done at least three days before it is set out to graze. This will protect the dung beetles that break down manure from the deworming substances.

Variation in animals, plants and habitats is called biodiversity.

Together, they provide us with ecosystem services such as fruits and berries, clean air and water, carbon storage, topsoil formation and pollination. Did you know that one in three bites of the food you eat is thanks to pollinating bees and other insects?

The WWF's "Living Planet Report 2020" shows that biodiversity is rapidly disappearing all over the world. The population sizes of mammals, birds, fish, amphibians and reptiles have seen an average drop of 68% between 1970 and 2016.

However, Sweden lost a lot of biodiversity before 1970. Things are better today for some mammals and birds of prey, but worse for beetles, butterflies and mosses as well as other species of birds. This is primarily due to forestry methods and overgrown agricultural land, which have negative effects on Sweden's species.

A natural pasture is an old field that has been grazed but never ploughed, fertilised or planted. These fields are high in biodiversity, with an average of 40 species per square metre, and are home to several threatened species of flowers, insects and birds.

WHAT HORSES EAT — HOW SUSTAINABLE IS IT?

Roughage should be the base of a horse's feed ration. Many Swedish horse owners also supplement this with concentrated feed. This contains raw ingredients such as cereals, linseed or occasionally soybeans.

Most of our feed is grown in Sweden, but some of it, such as soybeans, is imported from the rest of Europe or further abroad. The largest sustainability impact of feed comes from its cultivation. Issues include greenhouse gas emissions from machinery and chemicals from pesticides. When we cultivate the soil, there are emissions of plant nutrients such as phosphorus and nitrogen. These contribute to eutrophication in lakes and coastal areas all over the world.

Another global problem is that every five seconds we lose the equivalent of a football field of our topsoil to erosion. And deforestation is still taking place to produce farmland and grazing land, which contributes to CO2 emissions and the loss of biodiversity.

The risk of a negative impact from cultivation increases with the crops we use for concentrated feed. The risks are greatest when we grow crops in countries with a warm climate, with more pesticides, and in countries with weak environmental and labour legislation. Soybean farms face serious challenges in the areas of environmental issues and working conditions. Hazardous pesticides can still be used to grow soybeans. Pesticides that can pose a health risk to farm labourers as well as running the risk of poisoning the environment.

In general, growing roughage causes a lower environmental impact than growing the crops used for concentrated feed. Growing hay or silage is also beneficial to the quality of the soil, since it contributes organic matter that also captures carbon, which in turn helps to combat climate change.

"Our family's farm produces roughage according to our animals' nutritional needs, so that we don't have to buy supplementary feed. This allows us to reduce our transport and our impact on the climate. We return the manure to the fields rather than buying fertiliser, completing the cycle. So my idea is that more people should consider the importance of roughage that's been analysed in detail in order to reduce the amount of unnecessary supplementary feed and transport as well as managing the manure and reusing it on the fields."

Lina Andersson, Grand Prix dressage rider

WHAT CAN WE DO?

Make sure that as much of your horses' feed ration as possible consists of high-quality roughage. It is important to have an analysis of the nutrient content of the roughage in order to determine the extent to which it will provide your horse with the nutrients it needs.

The results of the feed analysis can be used to calculate your horse's feed ration using an independent feed ration programme. This calculation will also show clearly whether the feed ration needs to be supplemented with concentrated feed and minerals. It will also show whether your horse needs roughage with a lower nutritional content, like straw. You should then keep an eye on your horse's body condition and adjust its feed ration as needed. The website "HästSverige" has an independent feed ration programme and methods for body condition scoring.

Not only is reducing concentrated feed better for your horse and the environment, Swedish stables can also save tens of thousands of kronor by reducing their use of concentrated feed. If you do need to supplement your feed rations with concentrated feed, avoid buying concentrated feed that uses soybeans as its source of protein. If your horse needs more protein, an excellent solution is to replace the soybeans with alfalfa, which has the additional advantage of being a type of roughage.

Ask for feed that has been grown according to environmental labelling schemes such as EU Organic, KRAV and Svenskt Sigill.

HORSE MANURE IS IMPORTANT

Horse manure is responsible for about 10 percent of the total manure produced by all farm animals. A horse weighing about 500 kilograms produces eight to ten tonnes of manure every year. This amounts to nearly 3 million tonnes of manure per year in Sweden

HORSE MANURE AS A RESOURCE

Manure is an important resource that is needed for sustainable agriculture. It contains various nutrients such as nitrogen, potassium, phosphorus and micronutrients. It also contains bedding materials that become organic matter, which are beneficial to the structure and fertility of farmland. Plant nutrients must be returned to fields and agriculture. Otherwise new phosphorus need to be mined and mineral fertilizer (NPK) produced. This requires energy, and mining has a negative impact on the environment. Our planet also has a limited supply of phosphorus in its bedrock, so we must manage it wisely so that there will be enough for everyone in the future as well. Unfortunately, it's currently difficult and expensive for several stables to have someone take care of their manure properly.

FERTILISE FARMLAND WITH ANIMAL MANURE

From a sustainability standpoint, the best option is to return the manure to the farmland, so that all of the plant nutrients and organic matter will return to the land. Some horses in Sweden live on farms that produce their own feed and use the manure on their own farmland. Other stables have agreements with farmers who take the horse manure. Manure needs to be composted before it is used. This makes it less cumbersome and easier to spread.

BIOGAS PROVIDES ENERGY AND DIGESTATE

Horse manure is beginning to be viewed as a resource at biogas plants. The method is expensive, since these are often large plants that require cooperation among multiple farms or companies. But costs are declining and smaller farm-based facilities may become an alternative in the future. When the manure is digested in a biogas plant, the products are biogas and a digestate that contains a great deal of plant nutrients. Digestate must be returned to fields.

INCINERATING MANURE

Manure can be used as fuel, either directly in a boiler or by being made into pellets before burning. This alternative is more accessible at the farm level and provides us with energy. Unfortunately, we lose most of the manure's value as a source of plant nutrients, so combustion is not the best way to recover plant nutrients for agriculture. The organic matter and nitrogen are consumed in the process, but minerals such as phosphorus and potassium remain. It's important to find a solution so that these substances are returned to agriculture.

"Stig H. Johansson's trotting facility at Alby Gård has bought its roughage from Helleby Gård AB for many years. They complete the cycle together, as Helleby Gård receives the horse manure to be used as fertiliser in its cultivation. When they deliver roughage, they pick up the manure at the same time to avoid additional transport. For Helleby Gård, this means that they have reduced their use of commercial fertiliser."

Nils Söderberg, Helleby Gård AB and Karin Johansson, Alby Gård.

WHAT CAN WE DO?

To contribute to sustainable development, it's important to recover as many nutrients and organic matter as possible from manure for agriculture.

- Follow applicable legislation for storing and spreading manure.
- Make sure that foreign substances such as stones, banana peels, baling twine and plastic do not make their way into the manure pile. Keep in mind that it is to be used for growing crops, and that rubbish that cannot be composted will spread in the environment.
- It was believed for a long time that manure containing wood shavings was in danger of poisoning the land, but now we know this is not the case. On the other hand, manure containing wood shavings ordinarily takes longer in traditional composting before the manure is used.
- Try to minimise the amount of bedding that winds up in the manure pile, since this often makes the manure easier for farmers to use.
- Sometimes it can be difficult to find farmers who can take the horse manure, since it requires a lot of work in both handling and administration. Contact your trade association, LRF or your municipality for suggestions about farmers to contact.
- To be able to use digestate and ash, the manure can't be co-digested or incinerated together with contaminated material.

PLANT NUTRIENT EMISSIONS PRODUCE EUTROPHICATION

Wherever manure is managed, there is a risk that plant nutrients will be released into the air and water. The primary plant nutrients that contribute to eutrophication in our waterways and lakes are nitrogen and phosphorus. That's why there are regulations and advice for managing and storing manure in order to minimise the risk of emissions. Plant nutrients also run off from horse manure in paddocks, especially where the ground is not covered by vegetation.

The eight to ten tonnes of manure one large horse produces annually contains approximately nine kilograms of phosphorus. Phosphorus emissions represent a significant challenge for horse farms, since phosphorus often binds to particles of soil and is washed away in water after the ground is trampled. It has become increasingly clear over the last few years that these emissions are a significant contributor to eutrophication and algae blooms. Although the level of emissions risk depends on the type of soil on the farm and what its surroundings are like, it's important that we all help minimise emissions.

"HOW we raise our horses and HOW we manage manure is what leads to negative consequences and eutrophication, not the WHAT – which in this case is our beloved horses."

Cassandra Telldahl Bjelkelöv,
Water Advisor for Enköping municipality.

"Support from LOVA helped us drain all of our paddocks and install a phosphorus containment pond. This reduced our phosphorus emissions by 60 to 70 percent. It also made it easier to remove manure from the paddocks, and employees don't need to spend as much time washing clay off the horses."

Christoffer Bramfeldt,
Sörmons Riding Club in Karlstad

WHAT CAN WE DO?

- Learn more: Focus on Nutrients (Greppa Näringen, a project from the Swedish Board of Agriculture, LRF, and the County Administrative Board), Horse Manure – A Resource and Skitsmart (a project from HNS aimed at increasing awareness of the horse owner's responsibilities related to the handling of manure).
- Follow the existing laws and regulations from authorities for managing manure. Help is available through programmes like the "Certified Horse Facility" certification scheme. Store manure on a cast manure slab or container, for example.
- Survey your facilities: which areas get trampled? Where does the water flow? Are there paddocks near ditches, or waterways in the paddock?
- Develop a plan, find measures that work for you and that you can carry out. There are several possible solutions to help reduce emissions, and many of them also reduce parasite pressure. Some are simple, while others require some investments. You can apply for local water maintenance (LOVA) funds to reduce eutrophication through the Sea and Water Authority (Havs- och Vattenmyndigheten) and the County Administrative Board.

SOME TIME-TESTED MEASURES

Vary feeding locations and have several paths into paddocks to avoid destroying the ground by trampling.

- Avoid overfeeding with concentrated feed. Any nutrients the horse doesn't take up will end up in its manure.
- Remove manure from paddocks every day and clean up spilled feed. Set out a freight container or similar near paddocks to make regular manure removal easier.
- Make sure that the drainage works and ditches are properly maintained.
- Set up a protective zone of plants around waterways and ditches. Fence off these areas so that horses don't trample them.
- On surfaces that see heavy use, stabilise the ground with structure lime, which binds phosphorus and improves drainage.
- Check all of your pastures and paddocks with vegetation, and maintain vegetation through trimming and rotation grazing.

You can do this yourself or consult an advisor: Focus on Nutrients offers free consultations for horse farms with at least 15 horses, during which you and the advisor review the current situation and possible measures to reduce nutrient emissions on your farm. Coordinators appointed by the Sea and Water Authority's LEVA project also provide free consultations. Contact your County Administrative Board to find out who your local consultant is.

LIFE-GIVING WATER

One large horse needs approximately 25 litres of clean drinking water every day. Of course, they've always needed this much, but today we use a lot more water in the stable for riding surfaces, wash stalls, washing machines, kitchens and bathrooms. At the same time, climate change is affecting access to water in Sweden, as many have already noticed.

Only 2.5 percent of the water on our planet is freshwater – water we can drink and survive on. And we humans can only access one percent. Freshwater comes from rain: water that evaporates from oceans and lakes and forms clouds. Rainwater is used by vegetation and then runs off into lakes and waterways, or into pockets in the soil and bedrock, forming groundwater. We can access groundwater through wells. Our drinking water comes from groundwater and from our lakes.

Some stalls have water from their own wells, while others use municipal water.

Sweden has access to a great deal of water, but over the last few years climate change has made this access more uncertain, which we often see reflected in irrigation bans from municipalities or low water levels in our own wells.

LOCAL AND REGIONAL DIFFERENCES

Precipitation varies naturally between years, with more or less snow and rain. Climate change also has varying effects on different places in Sweden, depending on local and regional differences. Climate change and access to water is tricky to understand. We can have a year that seems rainy but simultaneously have low levels of groundwater. This can be because precipitation comes at the wrong time and vegetation takes it all up, or the water runs off surfaces instead of becoming groundwater. We have a longer growing season now due to climate change, which means that vegetation takes up more water than before. There are a lot of factors, in other words. Climate change research shows that there is a clear trend towards more extreme weather: more droughts and more powerful storms. Exactly where and when is difficult to predict, but the issue of reliable access to water is becoming increasingly important in Sweden.

WE CAN'T AFFECT HOW MUCH AND WHERE IT RAINS, BUT WE CAN BE SMARTER ABOUT OUR WATER USE.

Drinking water is generally cheap in Sweden, around SEK 0.04 per litre. A horse drinks for around SEK 1 worth of water daily. Water is also used in washing machines, showers and to irrigate riding surfaces. Several municipalities are expected to raise taxes on water in the future, to support the expansion, maintenance and replacement of old facilities.

Over the last few years, we've experienced droughts with water shortages in certain parts of Sweden. This led both to uncertain access to roughage and irrigation bans in several municipalities. Irrigation bans can affect riding facilities, riding schools and whether riding competitions can irrigate their arenas. This can limit operations and lead to lost income.

COLLECT RAINWATER

In summer 2017, the well water at Kvickstorp Stables outside Åtvidaberg was very low. Maria Cederlund and her husband Leif Lourié decided to find a solution to ensure their well water could provide drinking water for the horses and people at the stable. The cost-effective solution they came up with involves collecting rainwater from the roof of the indoor arena. The collected water is directly connected to sprinklers inside the indoor arena, which means that they don't need to irrigate it themselves. This has saved both money and time. On their website, they share information about how to build this kind of solution and how much it costs. During very dry periods, they also use rainwater to wash the horses.

WHAT CAN WE DO?

Talk to your municipality and find out if they have prognoses or climate change plans that will affect your operation's access to water. Another reason to contact the authority responsible for maintaining drinking water is to clarify what kind of support you can expect from your municipality in the event of a water shortage and what responsibilities you'll be expected to manage yourself. The municipality has no obligation to provide water for keeping animals, only to its citizens, so what they can do depends more on the prevailing conditions.

- Avoid contaminating water through unnecessary plant nutrient emissions (read more in the section on manure).
- Collect and manage rainwater in ponds or barrels for irrigating riding surfaces and other uses.
- Look for tips on how you can save water, such as water-saving taps, repairing leaks and using efficient major appliances.
- Think about which of the products you use are washed away with water. Be especially careful with certain chemicals and medicine (read more in the section on equipment). Svenskt Vatten has more information.

"In a crisis or shortage, municipal water is primarily for human use. This does not include feed production, animals or arena irrigation."

Mats Engdahl, Drinking Water Production Expert, Svenskt Vatten.

THE STABLE'S ENERGY USAGE

More than half of Sweden's climate emissions come from transport and electricity generation.

All energy usage affects our environment, and the use of fossil fuels is the greatest source of emissions of greenhouse gases, which contribute to climate change. Climate change is linked with numerous global disasters and the loss of biodiversity. A warmer climate increases the risk of a greater number of vermin, parasites and exotic diseases. But rain and drought also affect the production of feed, and if there is a shortage prices will rise. We have two ways to make a difference: by reducing energy usage and by converting to renewable energy and heating.

"Our motto is 'using without consuming.' Thanks to our solar park, which we built on an old riding ground that's no longer in use, the entire farm is self-sufficient in terms of electricity. This is good for the planet and our finances."

Joachim Öberg, Ågesta Gård, Stockholm.

WHAT CAN WE DO?

Every kilowatt-hour saved is a savings in CO2 emissions and money. It's worth it to replace major appliances over seven years old if the old appliance is recycled and replaced with a new one with an A+++ energy rating. The older the appliance, the more you'll save by replacing it.

If there is a small crew at the stable, it's easiest if everyone who spends time there helps each other to keep windows and doors closed and to remember to turn out the lights. If you often forget to turn off the lights, install a timer, especially for floodlights and other strong lighting that uses a lot of energy. If you run a larger stable, for example, installing water-saving brush nozzles and taps can be a good idea. Light sensors that only turn on the lights when someone is there can be installed in some spaces.

It's also important to reduce heat loss. A cost-effective alternative to replacing windows is to replace old weather strips. Consider how warm it needs to be in heated spaces. Lowering the temperature by one degree reduces energy consumption by about 5 percent.

To convert to renewable energy sources, you should begin by investigating how your facility gets its heat and electricity. Begin by choosing a plan offering eco-labelled electricity from your energy company. If you own your facility and are able to make the investment, there are good examples of stables that have installed solar panels, geothermal heating pumps and air heat pumps. You can also install a small wind turbine on the farm. Some stables have incorporated skylights into their roofs so that they don't have to turn on the lights in the daytime.

TRANSPORT — HORSES HIT THE ROAD

Transport accounts for a third of Sweden's greenhouse gas emissions. This includes trips by car to and from the stable, transporting horses to and from training sessions, competitions and vet visits, and transport of products and waste.

There is only one type of animal that travels more than horses, and that is human beings. Traffic affects nature through the emission of particles that contribute to acidification, eutrophication and the formation of ozone. These emissions are also hazardous to human health. Along with the production of concentrated feed, transport is responsible for horses' largest impact on the climate. Reducing emissions from the transport sector is a major challenge, since they are still generally dominated by fossil fuels. For example, all horse trucks currently registered for class B and C driving licences only run on diesel, which is a fossil fuel.

WHAT CAN WE DO?

When it comes to reducing the negative impact of transport, the issues are the vehicle, the fuel and the behaviour. We need better vehicles, more environmentally friendly fuel and behaviour that reduces unnecessary travel. Sweden has a vision of being free from fossil fuels by 2030, and by 2050 we are to have a sustainable and resource-efficient energy supply with no net emissions. In other words, Sweden is to ensure that it absorbs more CO2 than it emits.

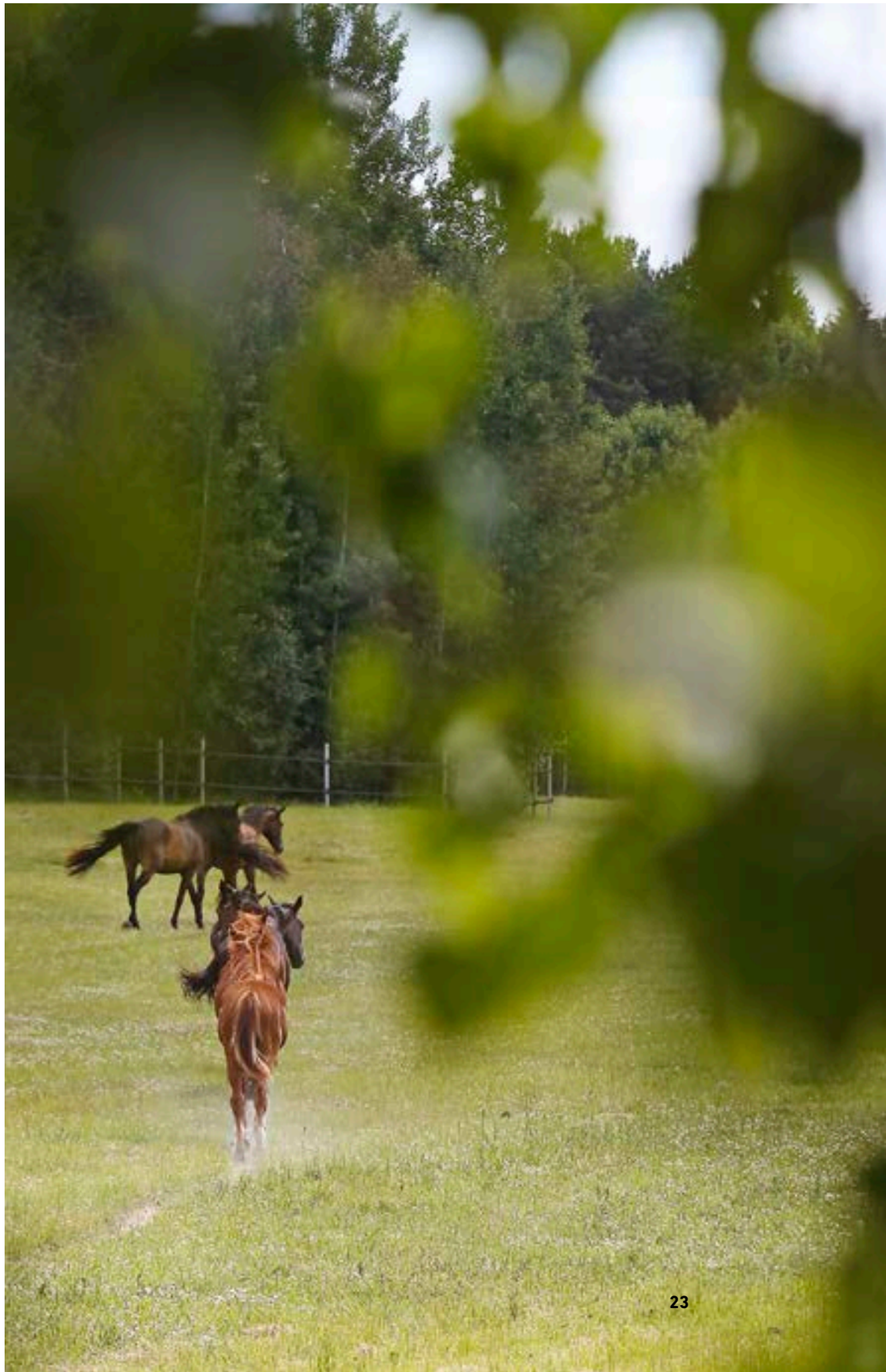
Every one of us can help to reduce the number of trips using fossil fuels, with the best trip being the one that doesn't happen. The sharing economy, or collaborative consumption, is designed to share resources — for example, carpooling to and from the stable and training sessions, and making joint purchases of roughage, concentrated feed and bedding, which are transported to the stable together. Having roaming trainers that come to stables is more climate-smart than multiple riders trailering their horses to the trainer. There are riding schools that have planned riding classes with children from the same part of town so that they can carpool and save on trips. Today, there's also the option of training digitally with trainers across Sweden. With a petrol-powered car that gets one litre per ten kilometres and is driven 1,000 kilometres per year, you can save nearly SEK 2,000 per year through economical driving.

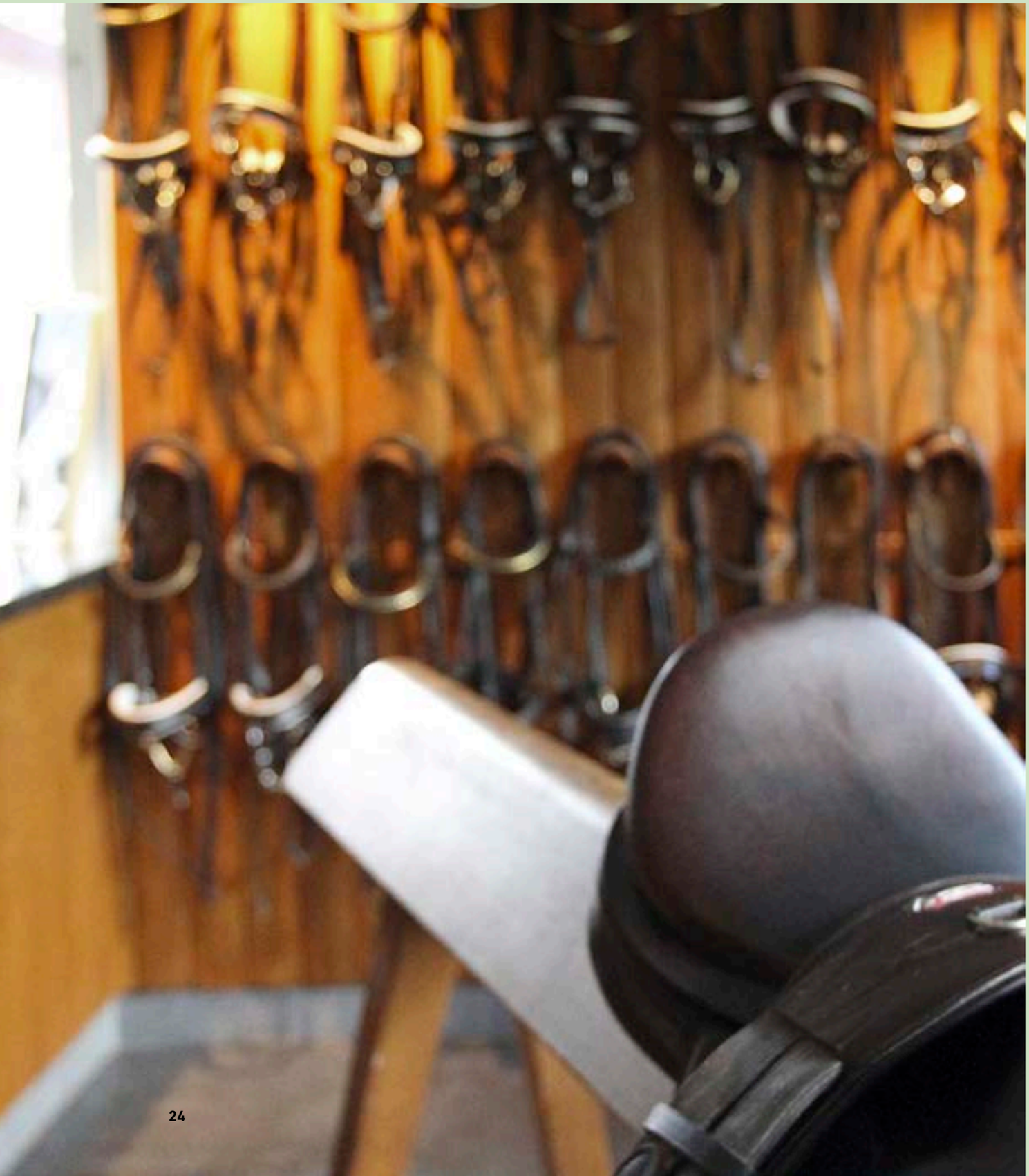
All horse trucks currently on the market run on diesel. You can use biodiesel to start. Biodiesel is a type of diesel with a renewable ingredient blended in. In addition, there are biogas, electric or electric hybrid, and ethanol vehicles that can pull horse trailers. In recent years, there has been a strong focus on battery power and rapid progress in electric vehicles. An electric vehicle powered by renewable electricity will be an important solution in the future. In the longer term, we should also be able to expect a transformation to hydrogen fuel cells and electricity in the selection of horse trucks on offer.

It has also been shown that there is often a lack of good public transport to riding schools, so that many people drive there. Make sure to persuade your municipality to have a bus stop near your facility. Use the local media, and contact your local politicians directly.

" We think that hydrogen fuel cell trucks will appear on the market before electric buses."

Per Viklund, Umesläp.





CLOTHING, EQUIPMENT AND ACCESSORIES

Internationally, more and more companies that manufacture and sell clothing and footwear are converting to more sustainable production, with products also being made from more sustainable materials.

Sales records are broken every year in Sweden, either at exhibitions, stores or online. Naturally, this means that equipment for horses and riders is having an ever larger impact on the planet. The largest sustainability impact occurs where the product is produced, even if shops, transport and how we take care of our products also have an effect. By demanding more sustainable products and services, we can help with the transition to consumption that has a more positive impact.

SADDLES, BRIDLES AND RIDING BOOTS — THAT'S A LOT OF LEATHER...

Many equestrian products are leather goods such as riding boots, saddles, bridles and halters. In 2015, the international leather industry produced eight billion square metres of leather. The origin of the leather is animal hides from slaughterhouses, often from cattle, sheep or goats As a result, animal protection legislation in the country of origin affects how the animal was treated during its lifetime.

The animal hides must be tanned before they are used, and the most common tanning method today is chrome tanning. Chromium is a heavy metal that cannot break down in the environment. Instead, it goes into the sewage sludge from the tannery or winds up in the environment when leather products are discarded. Chromium that is released into the environment when the leather is left in landfills or incinerated can be transformed into carcinogenic substances. The tanning process also involves other heavy metals that are hazardous to people, animals and the environment.

Leather for our riding equipment is often produced in Asia, for example in India. There are several major workplace safety challenges in the tanning industry, such as the lack of protective equipment. Long-term exposure to chromium leads to an increased risk of several illnesses, such as breathing problems, asthma, skin problems, lower fertility and various forms of cancer. People who live near tanneries can also become ill from groundwater contaminated with chromium.

There are also small-scale producers who use vegetable-tanned leather. This process uses biodegradable vegetable tanning agents, for example from oak bark, instead of heavy metals. →

"All leather in our products is 100 percent vegetable-tanned, and comes from our own tannery in Tärnsjö. The high quality of Swedish cowhides depends largely on our climate: we don't have many insects that feed on the animals. We also have some of the world's strictest animal protection legislation, which bans the use of electric stun guns for example."

Thomas Bayerlein, Tärnsjö Tannery

A HORSE BLANKET IS EQUIVALENT TO AT LEAST SIX T-SHIRTS

The textile industry is one of the largest industries in the world and it poses significant sustainability challenges. Between 2000 and 2019, the amount of new textiles per person in Sweden grew to nearly 14 kilograms per person, an increase of three kilograms. At the same time, every year nearly eight kilograms of textiles per person are thrown out and later incinerated.

One square metre of fabric is needed to make a t-shirt, a pair of riding breeches requires two square metres, and a horse blanket with one layer of fabric requires about six square metres. If we estimate on the low side, we can assume that we have one million horse blankets in Sweden. This is equivalent to at least ten million t-shirts, or perhaps even twice that number, since one square metre of a horse blanket weighs more than one square metre of a t-shirt. Growing a crop for food, animal feed or as a raw material for cloth is all done in the same way. The greatest environmental impact from textiles and clothing comes from the production of materials and raw materials. However, transport and how we take care of and wash our clothes have an impact as well. Clothes may also use materials from animals such as wool, down and fur. This makes it important to ensure that these materials come from animals that were treated humanely.

Cotton farming is facing especially large challenges today. It consumes a tremendous amount of water and uses large quantities of pesticides. It takes 2,500 to 2,700 litres of water to make one t-shirt. This is about as much as one person would ordinarily drink over three years. Since cotton is grown in dry regions where freshwater is in short supply, it demands a great deal of irrigation. Global cultivation uses as much as 6 percent of pesticides on just over 2 percent of farmland.

Even the production of synthetic fibres such as polyester and nylon has a significant environmental impact. This is largely because the manufacture of these materials is extremely energy-intensive, and they are made from fossil raw materials such as oil.

Large quantities of chemicals are used to dye all textiles, and highly fluorinated substances are used for waterproofing as well as for dirt- and water-repellent surfaces. Highly fluorinated substances may affect reproduction, are suspected of being carcinogenic and impair the immune system. They are extremely persistent, which means they don't break down easily in the environment. Odourless or antibacterial clothing often use biocide agents such as silver, triclosan and triclocarban, which are extremely toxic for aquatic organisms. Some of these substances may enter the environment in wastewater from washing textiles.

Terrible working conditions in the textile industry are often portrayed in our media. The issues are low wages and a poor work environment with a lack of protective equipment for chemical exposure, for example.

PLASTIC IS EVERYWHERE

Many of the items found in a stable are made from plastic, including buckets, boots, blankets, jackets, brushes, pitchforks and riding surfaces. Since 2010, plastic use in Sweden has increased by almost 300,000 tonnes per year, the equivalent of nearly 30 kilograms more plastic per person per year. As a material, plastic has numerous advantages, but some plastic also has major disadvantages. The manufacturing process is extremely energy-intensive and, in addition, most types of plastic are made from fossil oil, which in turn affects the climate when the oil is extracted from the ground or when the plastic is incinerated.

> "In the future, I hope that they'll develop fleece that doesn't contain polyester, or move to more sustainable alternatives like bamboo for wrappings, blankets and clothes."
>
> Per Sandgaard, Olympic equestrian and dressage coach

Plastic also contains chemicals, and some of these chemicals may contain toxic substances that can leach and affect us. Several types of plastic are suspected to be behind issues such as allergies, asthma, diabetes, obesity and fertility problems. It takes hundreds of years for a piece of plastic to break down in the environment. When some types of plastic suffer wear and tear, they distribute small particles called microplastics into our environment. For example, when you wash a polyester fleece garment this can release

up to 1,900 particles that pass straight through the sewage treatment plants' systems and are later mistaken for food by aquatic organisms. Microplastics are also released from brooms and riding surfaces with plastic fibres. We humans can absorb five grams of microplastics a week through drinking water and food. That's the equivalent of a credit card.

A great deal of research and development is being performed in the plastics industry to find new and more sustainable types of plastic. One method is to manufacture plastic from biomass, which must be grown sustainably if it is to provide a completely sustainable solution. It's worth noting that if plastic from biomass can't be broken down or composted, it can also contribute to microplastics in nature. The industry is also trying to replace problematic chemicals.

CARE AND OTHER PRODUCTS

Thousands of substances are used in our most common beauty products. Even if not all of them are hazardous, we know very little about the cocktail effect, in other words the effects and consequences of mixing or combining chemicals. Low doses of chemical preservatives (parabens) and per- and polyfluoroalkyl substances (PFAS) that are often used in cosmetics, shampoo and skin creams may be hormone disruptors as well as being linked to cancer in several cases. The same applies to products used for horses.

Insect repellents are designed to have an effect on living organisms, which means plants and animals other than only the intended target may also be affected. Some insect repellents are based on so-called natural essential oils. It's a good idea to be cautious when using these products as well, since they can cause hypersensitivity or allergies in both people and animals. →

The development of resistance in bacteria that cause diseases in people and animals is becoming more common all over the world. This means that the medications we use are becoming ineffective. This is especially problematic for certain groups of products, since there will no longer be any new alternatives to use in the near future. This is the case for antibiotics and dewormers.

WHAT CAN WE DO?

Don't buy new products unnecessarily, see if you can buy things second-hand and make your own contribution by giving things away or swapping with others. Buy textiles, leather and equipment that are high quality and will last a long time, and take care of your clothing and tack. Mend things if you can.

To help with the transformation to sustainability, those of us in the equestrian community need to increase our demand for more sustainable products and services. These days, there are several clothing brands with more sustainable collections. But when it comes to riding equipment and fashion, there are still only a few products to be found.

Use as low a temperature as possible when doing the wash. You'll save 40 percent in energy if you wash at 30° instead of 40°. Use environmentally friendly detergent, cleaners and waterproofing agents

"We use 100 percent Swedish wool and leather in our products. No synthetic material breathes as well as wool. It also doesn't cool when damp and it shapes itself to your body. This means that wool is well suited for saddle pads and blankets."

Charlotte Jansson, CCWool.

When you buy new products, investigate whether there are alternatives that are made or grown in a more sustainable manner. Other shops that don't sell equestrian products may also have good-quality clothing and products.

- **Leather**: Ask about vegetable-tanned organic leather and the country of origin of the animal hide.
- **Textiles**: look for organic alternatives and eco-labels such as KRAV or EU Organic, BCI – Better Cotton Initiative, Fair Trade, GOTS or EU Ecolabel. There are also labels related to the chemicals that make up the products or were used in their production such as Bluesign and Oeko-Tex. Avoid material that has been treated with antibacterial materials like silver, triclosan and triclocarban, or environmentally hazardous waterproofing.
- **Plastic**: review which plastic products you can replace and avoid. A broom made with natural straw is just as good as one made with plastic straws. Plastic products are often labelled with a number inside a triangle. A simple rule of thumb you can use to avoid the most hazardous plastics when shopping is: "4, 5, 1 and 2, leave everything else on the shelf!" This means that you should ideally avoid 3, 6 and 7. Numbers 2 and 4 are considered to be low-risk if they are not heated. Numbers 1 and 5 are considered to be low-risk in general.
- **Care products**: buy organic or eco-labelled products. Use a hood and blanket to protect your horse rather than insect repellent. Take a faecal sample before you use a deworming agent, and handle other medicine as you would your own.
- Try to purchase Fair Trade-labelled products to ensure that the people who made the product are working in decent conditions for a fair wage.
- Since it's not always clear how a product is made, ask questions in the shop or by chat or email. Put them on the right track by requesting sustainable alternatives. Ask to be notified if there are products made from sustainable materials or that are eco-labelled. The alternatives are out there and they are multiplying. Asking questions will speed up the pace of change.
- Find out how to recycle worn-out products such as plastic, textiles and clothing so that the materials will have a second life. More on waste and recycling on the next page.

STABLE WASTE AND RECYCLING

Waste is increasingly being viewed as a resource. If we reuse products or materials, we can avoid the negative impact of extracting and producing new materials.

In Sweden, we have been at the forefront of introducing the sorting of household waste, with the objective of reusing products and recycling materials or using them for their energy through incineration. Materials originating from waste will become even more important in the future, and it's important for us to sort waste everywhere, including the stable.

Stables produce many different types of waste. For example, their operating activities produce a great deal of plastic waste from silage, bedding and plastic jars as well as paper waste from feed sacks. We get metal waste such as horseshoes at regular intervals, and sometimes we need to repaint and replace batteries.

Did you know that only 85 percent of PET bottles were recycled in 2019? Sweden's environmental target is 90 percent. Many small PET bottles are still discarded in ordinary wastebaskets rather than being returned for money. Even though we are good at sorting waste in Sweden, the total amount of waste has increased. In 1975, we produced around 320 kilograms of household waste per person, but by 2018 we were up to more than 470 kilograms. This increase reflects the amount of the earth's resources that we are consuming.

WHAT CAN WE DO?

A waste hierarchy describes how waste is to be handled in Sweden. First, reduce waste by fixing things that are worn or broken. This is the best way to reduce use of the earth's resources and our impact on the environment. Try to reuse things by swapping, buying, selling and giving away things you don't need.

Next, we can recycle materials. All packages and newspapers can be recycled at recycling stations. The material can then be made into new products. A compost heap is good for recycling food and garden waste. When it comes to horseshoes, there are systems for recovering iron. You can get around SEK 0.5-1.5 per kilogram of iron.

If the materials can't be recovered, their energy can be extracted through incineration. The waste in the rubbish bin can be transformed into district heating and electricity through incineration in a district heating plant.

Putting anything into the landfill should be a last resort. Since we've become better at sorting waste in Sweden, less then 1 percent of our waste goes to landfill.

Hazardous substances need special handling since they can cause injury if they end up in the wrong place. Batteries and electronics are examples of hazardous waste. Leftover medications and all thermometers should be brought to the pharmacy, just like ours.

As the operator of the business, you are responsible for the handling of your waste. Note that recycling centres have different rules for private individuals and business operators, both for quantities of waste and costs.

Burning silage plastic is prohibited. Silage plastic is collected by the organisation Svepretur at specific dates and locations across the country. The collection is financed through a recycling fee that is part of the plastic's purchase price. This means that you can bring sorted plastic to a collection point for recycling at no further cost.

A MORE SUSTAINABLE COMPETITION

Competition organisers have the chance to market themselves and to attract sponsors as well as the opportunity to communicate with and influence others. Different groups of people such as competitors, officials, sponsors, exhibitors and spectators encounter one another, and they are reached by the various messages at the competition.

Naturally, the size of the competition and whether or not it takes place at an existing facility make a difference to its impact. If you are about to organise a large competition, the International Equestrian Federation (FEI) has developed a handbook for sustainable events, the "FEI Sustainability Handbook for Event Organisers".

There are several areas that all competitions have in common: transport, food and beverages, waste management, prizes and sales, accessibility and equality. One way to get started with these efforts is to focus on a few areas at the outset, and then add others gradually.

WHAT CAN WE DO?

TRANSPORT

Provide information early on about how spectators can get to the competition in an environmentally friendly way such as public transport or ride sharing. Ride sharing is enjoyable, and it's a great way to meet new people. Clear directions to the competition can reduce both unnecessary travel time and fuel consumption.

FOOD AND BEVERAGES

It's easy to make a difference with food and beverages. Coffee and milk that are organic, climate-compensated and Fair Trade-labelled provide a lot of value at little expense. Offering vegetarian alternatives can reduce environmental impact and the cost of ingredient purchases. A dish that is completely organic can draw positive attention and is better for the environment and animal husbandry. Make sure to minimise the amount of waste. For example, plates and forks are not needed for wraps. If you must have disposable products, use ones that are eco-labelled and biodegradable.

WASTE SORTING

Make sure to have easily accessible and clearly labelled receptacles for sorting waste into different categories, ideally labelled with both words and pictures. In addition, deposit bottles will give you money back.

PRIZES AND PRODUCTS

The sponsors you choose can reflect the values you want to communicate. Many avoid companies that produce weapons, tobacco and alcohol. Today, that also includes fossil fuel producers.

Try to organise environmentally friendly prizes and offer things that people can use. Gift cards for services may be an option as well as environmentally friendly washing and waterproofing. If you have exhibitors, see if any of them provide good examples that you can highlight.

ACCESSIBILITY AND EQUALITY

Try to make it possible for people with disabilities to attend the competition. Consider whether or not the event promotes equality. Can both men and women be seen throughout the event, for example, at the prize ceremony?

SPREAD KNOWLEDGE ABOUT SUSTAINABLE DEVELOPMENT

In addition to clearly showing and explaining what you are doing at the competition itself, you can take the opportunity to refer others to an article, website or publication that discusses sustainability and horses.

OUR DEFINITION OF SUSTAINABILITY AND THE SCOPE OF OUR STUDY

The authors have used academically published, well-tested definitions of sustainability and sustainable development.

The assessment of the sustainability impact in the areas reported on is based on the sustainability principles included in the Framework for Strategic Sustainable Development, which encompasses both ecological and social sustainability, and the Stockholm Resilience Centre's Planetary Boundaries.

This report puts horses in the centre and identifies the major shared sustainability issues that are connected to horses and concern everyone involved with horses, either privately or professionally. There is a focus on everyday flows of products and services. This report is primarily written from a Swedish perspective.

Issues that only concern a small number of people, or individual activities such as constructing facilities, buildings and rings, are not included. Nor does the report look at ancillary activities such as healthcare and insurance. The selected topics are assessed from a life cycle perspective, in other words the sustainability impact from cradle to grave.

AUTHORS OF THE REPORT

Jenny Blomberg has a background in the media industry and has worked on sustainability issues for several years, specifically as a climate strategist and project manager at ZeroMission, implementing environmental and climate initiatives that strengthen brands. She has a diploma in market communications from Berghs School of Communication, and a Master's degree in sustainable enterprising from Stockholm Resilience Centre. She's been a dedicated rider since the age of seven, and her base is in Stockholm.

Camilla Välimaa has worked on sustainable development and business since 1998. Assignments in the agriculture and food sector have been a consistent theme throughout this time, not least during the eight years she spent as manager of sustainability at Lantmännen. Her degree is in soil and plant science, with a focus on sustainable development. She worked for the organisation the Natural Step for ten years, as a senior advisor to businesses and organisations, both in Sweden and internationally. Today she works with corporate partnerships for the WWF. Camilla has enjoyed high-paced trail rides combined with woodland walks since she was a child, and today she is a sharer in Vaxholm.

Jenny and Camilla run the organization HållbarHäst together.

WOULD YOU LIKE TO KNOW MORE?

An important starting point is facts from independent sources and advisors.

"Independent" means that the party providing advice or information has absolutely no financial interest in providing you with one set of advice or facts over another. The website "HästSverige," County Administrative Boards and the Swedish Board of Agriculture are just few examples of independent sources with more information about many of the topics discussed in this report, from legislation to more detailed tips and advice.

Also check what equestrian organisations have to offer, such as HNS, the Swedish Equestrian Federation, and LRF Horse.

GET HELP FROM A KNOWLEDGEABLE ADVISOR

Find out how much information, advice and support your municipality or County Administrative Board can offer you. This may vary depending on available resources and the focus of the organisation. If you need more advice and have the ability to pay for advisory services, you can get help from organisations such as the Rural Economy and Agricultural Societies or Växa Sverige.

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Hållbar Häst
LÖVSTA STUTERI
SVENSKA RIDSPORT FÖRBUNDET
Got Event

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