

Workhorses in Norway

by

Martin Aeschlimann

SJH N-5745 Aurland, Norway

Abstract

Norway is an industrialised country with a highly mechanised agriculture so few draft animals are used by farmers. However, the income of Norwegian farmers is falling and there is a growing focus on the ecological impact of farming. This has caused some farmers to start using work horses again. The government supports projects that lead to a wider public acceptance of workhorses as an alternative to tractors. One agricultural school includes the use of workhorses in its compulsory curriculum. This is only a beginning: major demands have to be met before a significant number of farmers begin to use workhorses again.

Introduction

In northern Europe, Norway has an area of 320,000 km² and 4.3 million inhabitants. The country is more than 1500 km long and has many glacial mountain ranges. The majority of the population live along the coastline. The climate is influenced by the gulf-stream: the coastline has a high rainfall and fairly mild winters. The east gets less rain and has cold winters with snow from November to April. Some areas of mountainous valleys are fairly dry and here farming is only possible with artificial irrigation. Only 3.6% of the total land surface is farmed, with 22% productive forest. Only 2% of the working population are farmers. Norway has one of the highest levels of agricultural subsidy in the world. It is a political aim for the government to maintain a widely spread population. Supporting farming is a key step towards achieving this aim.

In the east of the country the landscape comprises rolling hills and wide valleys and the farms are much bigger than the Norwegian average of 10 ha. The main crops in this region are grains and potatoes. In the west, mountains, lakes and fjords dominate the landscape. The farms are small and often situated on steep hills. Milk production is dominant in this area. Where the land is too steep for cows to graze, goats are kept for milk. In the summer the animals are grazed in the

mountains on summer farms. Until the end of the 1950s the majority of the farms used horse power. By the mid 1970s, 15 years later, tractors had almost completely replaced the workhorse. Today most of the remaining workhorses are used on smaller farms and in the mountains.

Why use workhorses in Norway today?

Since the introduction of tractors to Norway, workhorses have been regarded as old-fashioned and reminiscent of a past era. Farmers working with horses were looked upon as crazy or as hopeless romantics. Working with horses was not considered seriously. Around 1980, a new era started with a government-supported logging research project. Mechanisation of forestry with ever bigger machines was resulting in severe damage to the soil and remaining vegetation. At the same time these machines were not well-adapted to steep hillsides. Some farmers began consider using workhorses again and started a research programme. Old horse-logging equipment was modernised, and intensive field tests proved that it was efficient, causing a small-scale renaissance of the workhorse in forestry. The use of workhorses has not increased greatly since the end of the project; nevertheless, it was successful in changing the image of horse power. The public became informed about the possibilities of the workhorse in forestry. New equipment was developed and production started. Books and videos about horse-logging were produced and courses held on the subject. For some years the number of professional horse-logging contractors increased. Today, with new harvesting machines, prices are too low for most horse-loggers to be able to compete. However, with a growing demand for focusing on ecological aspects of logging, horse-logging can be expected to become more popular in the near future. Nowadays many farmers buy new equipment and use horses for logging in their own forests.

For details of ATNESA and how to obtain this publication see <http://www.atnesa.org>

The increased use of horses in forestry has stimulated their use in farming, though most of the farms working with horses also have a tractor. The main reason why people want to work with horses is their interest in animals. With the modern farmer working most of the day on his own, having a social partner in the workhorse is another aspect. Often the whole farming family is interested and involved in using and caring for the horse. Ecological reasons are also important. With a tougher economic situation, many farmers are looking for ways of cutting expenses. Some find a solution in replacing one tractor with a horse. Although the vast majority of farmers are still using tractors, workhorses are gaining ground and small farmers in particular are beginning to recognise the advantages of horsepower.

Reintroducing the workhorse at Sogn Farming and Gardening School

Sogn Farming and Gardening School is the only college level school for organic farming in Norway. Rather than concentrating on a particular direction within organic farming, for example biodynamic or organic-biological farming, it emphasises the qualities from the established organic movement. The education is organised so that during the two years, the students will experience an entire growing season.

The 26 ha organic school farm is the main classroom at the college. It is managed after the IFOAM regulations on organic farming. The students are involved in the daily chores. The barn houses 15 dairy cows, 20 dairy goats, 40 sheep and 4 workhorses. Besides animal husbandry, horticulture is an important part of the farm (1.2 ha vegetables, 1.2–1.6 ha potatoes, 0.8 ha fruit and berries, glasshouse production).

The education at the Sogn college is a solid, professional education, which qualifies students for the title 'Agronomist in organic farming'. When finished, the students should be able to manage an organic farm on their own. The education is both practically and theoretically orientated. In recent years more than 50% of the students have been women. The course also teaches social science, where organic farming is seen in a social, historical and political light. At present the school has 53 students and 9 teachers.

The Workhorse Project at Sogn

For some years there had been discussions about whether to reintroduce workhorses to the school farm. The final decision was taken in 1990 when a government-funded project made it possible to reintroduce them, after 30 years of absence. Since there was no suitable equipment left at the farm, the project had to start from scratch. After 6 months of training horses and acquiring and repairing machinery, teaching the use of horses began. Horses are now used in many operations at the farm. Learning about horses is compulsory at the same level as mechanics and field work with tractors. All students receive both theoretical and practical training in the use of workhorses.

In the theoretical part of the course the students gain an introduction to the use and care of horses. They learn about feeding and husbandry, about the possibilities and limits of the workhorse, and about planning the use of workhorses on their own farm. In the practical part the students undergo basic training on harnessing, hitching, driving and safety before they start field work. During field work they learn to harrow, drill, cultivate and to use the toolframe for weeding. Other aspects they learn are plowing, tedding and raking hay, transport and horse-packing. In the winter there is also a course on log skidding with horses. The majority of students (50–80%) do not have any experience with horses before they come to the college. They are eager to learn and many students who have completed the course have started to farm with horses. The agricultural school also arranges shorter courses (2–3 days) on the subject.

Developing machinery

The production of horse equipment had come to a standstill in the 1960's. One of the main tasks of modern animal traction is the supply of adequate, modern machinery. There are a lot of horse-drawn machines available in the USA, but most of these are not appropriate for a small-scale Norwegian farm. Equipment is required for both single and pairs of horses. A government-supported project on developing horse-drawn equipment started in 1993. A first step was to produce a team-drawn self-loading wagon for loading loose hay and grass. A lightweight tractor-drawn pick-up wagon was equipped with a front axle and a motor with pto to drive the pick-up unit. To obtain maximum

flexibility, both the front axle and power unit can easily be disconnected and used for other equipment such as a flat-bed wagon, a manure spreader and a hay tedder. The self-loading wagon has proven to meet expectations. The capacity for loading of loose hay is 30–60 m³ per hour.

In a second step, a new Swiss multipurpose toolframe/forecart will be used as a basis. Equipped with a new hydraulic power unit, it will be used to run a hayrake, a haytedder and a sprayer. The motor drives a hydraulic system, so providing a flexible alternative for driving a wide range of pto equipment, including winches, wood saws, and milking machines.

Field research

One argument often used to support working with horses is that they have a lower impact on the soil compared to working with tractors. Yet there is little evidence to support this statement. In 1995 Sogn college started a 3-year field research project on the subject. In a hay/grass field one part will only be driven on by tractor, another part only by horses and horse-powered equipment. On a control patch no machines will be used at all. In each of the three plots there will be five fixed survey lines along which vegetation and soil characteristics are recorded. The first results are not expected before the end of 1996.

Discussion and conclusions

There is a growing interest in the use of workhorses in Norway. A lot of young people wish to learn more about how to farm and work with horses. However, people who wish to use workhorses face many problems including: getting the know-how, finding/constructing the needed machinery and getting spare parts, finding qualified help experienced with workhorses and replacement of a trained workhorse in case of sudden casualty.

Knowledge about working with animals has traditionally been handed down from generation to generation, with little written down. 'Everybody' knew how to handle a horse until the 1950s. This traditional handing down of knowledge has been broken. New ways have not yet been established. There is an increasing need for education and information. Farming schools can be involved successfully as described above for the college in

Sogn. Good books need to be written on the subject. Practical 2 to 3-day courses are held at different places but there is a need for better and longer courses tailored to farmers' needs.

It can be difficult for farmers to acquire the equipment necessary for working with horses. There is still a lot of old machinery available, but as Jean Nolle had already realised 40 years ago, new machinery has to be developed in order to keep the workhorse competitive on small farms (Nolle, 1986). Factories producing modern farming machinery are not interested in the development and production of horse equipment because the demand for such machinery is too low. Some machine shops in other European countries are manufacturing horse equipment in small quantities. However, they do not have the resources to offer all the machines needed. This lack of equipment may have a major effect on the future of the workhorse in Norway.

The negative aspects of overmechanised agriculture are becoming increasingly visible. Research about farming with workhorses will lead to a wider acceptance of animal traction. The experiences from the logging research project show this clearly.

The ecological impact of farming is of increasing concern to farmers and the public. At the same time farmers are facing lower income and have to cut down on expenses and investments in order to survive. It is also a well-known fact that the modern farmer faces major physical strains, such as back problems due to long hours with tractor work. Loneliness, as a result of industrialisation of agriculture, is another aspect of modern farming.

The ecological, economic and social aspects of farming mentioned above are arguments for greater use of workhorses. To achieve a wider use of workhorses politicians must to encourage horse power by supporting education, consulting, and the research and development of machinery. More importantly, people actively working with horses must share their knowledge of the benefits workhorses can give to modern agriculture.

Reference

- Nolle J, 1986. *Machines modernes à traction animale: itinéraire d'un inventeur au service des petits paysans*. Edition L'Harmattan, Paris, France.