

## DEVELOPMENT OF NATURAL HORSE PASTURES IN FINLAND IN THE 1900s

H. Jansson<sup>1</sup>, K.H. Jansson<sup>2</sup>, A. Olin<sup>2</sup>, T. Talikka<sup>3</sup> and J. Pykälä<sup>4</sup>

<sup>1</sup>Agricultural Research Centre, Equine Research, FIN-32100 Ypäjä, Finland

<sup>2</sup>Agricultural Research Centre, Institute of Soils and Environment, FIN-31600 Jokioinen, Finland

<sup>3</sup>Agricultural Research Centre, Experimental Farm, FIN-31600 Jokioinen, Finland

<sup>4</sup>Finnish Environment Institute, Nature and Land Use Division, P.O. Box 140, FIN-00251 Helsinki, Finland

### ABSTRACT

The purpose of the study was to assess the importance of natural pastures as a growing environment for horses and, at the same time, to evaluate the landscape value of such pastures. Another aim was to look at possible ways of conserving areas which have been in use as horse pastures for a long period of time as traditional biotopes belonging to the Finnish horse grazing culture, and to examine how their management and care could be improved.

### KEYWORDS

Horse, natural pasture, landscape, biodiversity, animal welfare

### INTRODUCTION

At the turn of century it was becoming evident that Finnish horses - and male colts in particular - were kept under very unfavourable conditions. According to Fabritius (1945), colts were usually doomed to spend most of their lives cramped in small stalls or boxes, with deficient lighting and inadequate air conditioning. Several farms lacked an exercise yard altogether, and the colts had to spend the entire wintertime in very poor circumstances with no chance of any outdoor exercise.

In the early 1900s, therefore, plans were initiated to establish a number of pasture areas for horses in Finland. Horse pastures were established on islands of various lakes and the archipelago as well as on the mainland. The sites chosen for pastures were areas with solid ground and with varied terrain and vegetation. If necessary, these were further divided into sectors comprising both forest and open areas. Fabritius (1945) points out that grazing on common pastures also has the important advantage that it enables foals to play and exercise together, which is very favourable for their development, and at the same time, possible faults in their temperament are evened out and corrected.

According to the annual report of the National Stud Farm (1948), the total area of the stud's pasture grounds at Ypäjä was 63.28 ha. Of this area, 20.21 ha. was forest and the remaining 42.32 ha. was open land that had been cleared from forest, drained, clayed, and surface-fertilized with horse manure. The pasture grounds had been divided into nine sectors so that each sector included shelter forest. In the year in question, both fillies and colts grazed in the area, and the total number of grazing days was 3920. Even today, the pastures at Ypäjä continue to be grazed by horses as before. They have evolved into traditional biotopes with rich variety of different species of flora and fauna. Here horses can fulfill their natural behavioural needs and find shelter if necessary, and they also have the chance to improve their physical condition.

Haeggström et al. (1995, p. 115) suggest that the first step in preserving a traditional biotope is to keep it under at least some degree of management. However, the impacts of management should be carefully monitored, and whenever necessary, the methods should be changed accordingly.

### METHODS

In 1993-1996 a project was carried out to examine the landscape and use of Ypäjä horse pasture in the period following establishment

in the 1930s. The pasture's history was studied at the provincial archives of Häme province, at the National War Archives and the former National Stud Farm's archives, as well as through interviews. In addition to field visits, the study also included a comparison of aerial photographs taken at different points in time, and a review of Ypäjä's forest and pasture management plans as well as forest and pasture utilization.

A survey of the vegetation and landscape of the pasture grounds (approx. 90 ha.) was conducted in 1994 and completed the following summer by including two pasture islands in the study. The other one, Särkisaari, situated at Hauho close to the town Hämeenlinna, comprises an area of around 16 ha., of which about 7 ha. is field and meadow and the remainder is forest and alluvial land. The other isle, Rahvo, lies further up north close to the town of Kuopio, and has a total area of 108 ha. with 5.5 ha. of field, 17.5 ha. of enclosed pasture, and the remaining 85 ha. of forest. The vegetation as well as the development of the landscape were evaluated on both of these islands. Of the areas included in the study, the grounds at Ypäjä had been used as horse pastures since 1937, Särkisaari since 1953 and Rahvo Isle since 1916.

In 1993, active measures were initiated to preserve the pasture landscape and improve pasture utilization as well as to study alternative management methods. These measures have so far included clearing of pole-stage subgrowth and selective cutting of stemwood thicket. The objective is to prevent the threatening reforestation of the traditional landscape meadowlands, to increase available sunlight and thereby to improve the conditions for survival and the diversity of the light demanding surface vegetation favoured by horses, as well as to enhance the overall picture of the landscape. Particular attention is paid in all management measures to the endangered species of flora and fauna in the area, with the aim of preserving and developing the biodiversity of nature. The impact of the management measures is monitored on a yearly basis.

### RESULTS AND DISCUSSION

It is easy to trace the rapid overgrowing of the open pasture grounds at Ypäjä from the aerial photographs taken in different years, as well as the increase in woodland that has taken place in the course of the past decades. Still in the late 1940s, the pasture area of 50.38 ha. had altogether 18.76 ha. of forest, but by 1992 the corresponding figure was 32.5 ha. In connection with the survey, three meadows of considerable value were found in the Ypäjä pasture grounds, including a grape fern species, *Botrychium multifidum*, which is an endangered species in Häme Province, as well as other plants dependent on traditional land use patterns such as *Botrychium lunaria* and *Carex panicea*. A large amount of junipers (*Juniperus communis*) grow in the open areas.

The woods in the traditional landscape pasture, originally reserved as protection forest for the horses, grow predominantly birch mixed with some European aspen (*Populus tremula*), goat willow (*Salix caprea*), alder (*Alnus spp.*), rowen (*Sorbus aucuparia*), bird cherry (*Prunus padus*) as well as conifers such as spruce (*Picea abies*) and pine (*Pinus sylvestris*). These woods appeared after the forest was cleared for pasture around 50 years ago, with birch as the main pio-

near tree. Until recent years, the forested areas have remained as natural pole thickets without very diversified surface vegetation or bushes, except in the border zones between the woods and the open meadowlands.

The grazing pattern of horses has had a distinct effect on the development of both the landscape and the vegetation of the pasture grounds. As a result of the selective feeding habits of horses, certain areas are quite closely grazed. Those areas which grow plants favoured by horse have clearly diminished in the course of time. Poisonous and untasty plants such as the meadow buttercup (*Ranunculus acris*) and the nettle (*Urtica dioica*) have had a chance to grow and multiply freely and invade more growing space year by year. Horses generally have certain places where they defecate, and nettles thrive especially well in these places. The meadows in all the pasture areas are considerably overgrown, and grazing is not sufficient to keep them open. What is needed is human intervention in some form of regular management. Overgrazing has worn the terrain and resulted in barbered trees, while undergrazing has caused the pasture to become overgrown.

Finally, a comparison was made between the fertility of areas growing tasty and untasty plants. No distinct connection between the corresponding soil fertility gradients could be established.

#### REFERENCES

**Aalto, O. 1937.** Orivarsojen laidunkokeista Rahvossa (Summary of pasture experiments of colts on isle of Rahvo in the years 1933-1935). Viipuri, Kauppakirjapaino Oy Viipuri. 19 p.

**Fabritius, L.J.** 1945. Hevoskasvatusyhdistys Hippos 50-vuotias. Kertomus toimintakaudelta 1894-1944. Turku, Uuden Auran Osakeyhtiön Kirjapaino. p. 58-80.

**Fraser, A. F.** 1992. The Behaviour of the horse. Melksham, Redwood Press Ltd. 278 p.

**Johansson, O. and P. Hedin.** 1991. Restaurering av ängs- och hagmarker. Naturvårdsverket. Solna, Tryckindustri, 146 p.

**Haeggström, C-A., T. Heikkilä, J. Peiponen and S. Vuokko.** 1995. Toukohärkä ja kultasiipi. Niityt ja niiden hoito. Keuruu, Kustannusosakeyhtiö Otavan painolaitokset. 160p.

**Louna, T., H. Jansson and A. Olin.** 1995. Ypäjän Hevostila. Ympäristönhoitosuunnitelma. Osa I. Yleissuunnitelma. Maatalouden tutkimuskeskus. Jokioinen, 31 p.