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3

# PLANTS AND CULTURE: seeds of the cultural heritage of Europe



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# Few, but useful garden plants known from Norwegian summer-farms

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## Abstract

Opplysninger om bruk av hageplanter på norske setre er vanskelig å finne i norsk litteratur. Basert på herbariebelegg og feltnotater har det vært mulig å legge frem en oversikt. I tillegg til presset materiale, er det naturlig nok flerårige planter som er lettets å finne. De har også vært lettere å dyrke for en person og vedlikeholde fra en sesong til den neste. Utvalget av arter har vært betinget av lokale klimatiske forhold. De fleste artene har vært knyttet til medisinsk bruk, til rengjøring eller som grønnsak. Kombinert bruk har vært vanlig.

## Introduction

Traditional summer-farming (fig. 1) (term recently discussed by Potthoff 2005) is well known in many countries, and a large number of references exist about the traditional use, folklore, seasonal movements of animals and the people taking care of the animal and dairy production. The summer-farm tradition has a long history not only in Norway (Hougen 1947; Reinton 1955, 1957, 1961; Kvamme 1988; Moe 1996; Nilsen and Moen 2004; Austad *et al.* 2004; Potthoff 2005) but also within many other regions in Europe (Hougen 1947; Sayce 1957; Meserli 1989; Susmel *et al.* 2004; Bunce *et al.* 2004; Peterseil *et al.* 2004; Gomez and Lorente 2004;

Mróz and Olszanska 2004; Pascual 2004; Ispikoudis *et al.* 2004).

The Norwegian literature refers to place names ending with among others “seter”, “støl”, or “set” as dating from the 15<sup>th</sup> and 16<sup>th</sup> hundred, summer-farms also existed during the Viking Ages, AD 800-1000. In the work “Fra seter til gård” (Hougen 1947) which gives a survey of summer-farming on an European scale, a linguistic study is included that concludes that the oldest seasonal farms in Norway occurred probably as far back as some years before Christ. This corresponds well with palynological studies at least for Norway, indicating a start for the oldest summer-farms at about 500 BC (Moe 1996).



1. - Suitable grazing-land occurred above the tree line, and nearby places with water and wood were selected for the traditional summer-farms. This seasonal farming has, however, changed or reduced the natural tree line by 100 to 150 metres in some cases (after Moe and Hicks 1990) (Drawing: H.H. Birks).



2. - Map of South Norway with counties (ref. summer-farm and counties mentioned in the text). Aktuelle støler: Mysubttseteren (Sel) (=M); Spiterstulen (=S); Christine Bonnevie-seteren (=B); Tine Bonnevie-seteren (=T); Prestestølen (Sel) (=P); Rondablikk (Sel) (=R); Voss-støler (V).

During the last 100 years, changes in the general farming economy have taken place (Reinton 1955; Hougen 1947), and the number of seasonal summer-farms is reduced. Rough estimates in Norway indicate a reduction of more than 90% compared with the situation 70-100 years ago. Those summer-farms, that are still, have changed their routines because of the availability of electricity, new roads, daily of transport if needed, and a regular supply of fresh food, etc. Family members knowing the old tradition about how to run a summer-farm and which plants were of most importance are increasingly hard to find today.

Garden history and plant use both for ornamental purposes, beauty, and food supply have been of special interest during recent years, mostly focused on large formal gardens, but the interest both for useful plants and beauty reached also the most remote places. Although the data are scattered, this study is a first attempt to list garden plants known used at summer-farms, for medical use, as a vegetable or spice, or combined use, as well as for their beauty. Despite summer-farms are known from whole Norway, the selected farms are only from the southern part and located to the county (see fig. 2). Hegi's *Flora der Mitteleuropas* is used as a basic literature reference in this article (Hegi 1909, 1928, 1957, 1975).

### What sources are available today?

Traditional plant records by botanists unfortunately have not always considered cultivated plants, and garden plants have therefore in most cases been ignored from lists and reports. Many years of fieldwork in the low- and sub-alpine zones has, however, given evidence for traditional

garden plants close to the tree-line. Indeed, *Urtica dioica* has survived for quite a long time, but in between the stands, other species may occur as they are sheltered from being eaten by browsing animals. Only perennial garden plants have also been found. Remains of annual plants (vegetables etc.) are hard to find. Also potatoes have been grown at some summer-farms, but they are not properly documented. Herbarium collections have been of great importance along with additional data, whereas detailed information from the literature is limited.

In a few cases a seasonal farm for a short period may have been used as a whole-year farm, as Øvstebø in the Aurlandsdalen valley (Moe and Indrelid 1986). In such cases it is hard to know from which period the plants originated from.

### Which plants are found?

First of all we need to accept that the summer-farm economy was important for the farmer. The meat and the dairy products were important. In addition it was important that the animals were kept away from the home infields which were used for the production of hay that was then stored as winter fodder. To expand the season in the mountain, some hayfields also existed as a supplement in case of snowfall at the summer-farm.

Despite marginal climatic conditions the national law of 1687 made by King Christian V (Christian V 1687) had a special paragraph saying that it was not allowed the grow cereals or do haymaking at the summer-farm (§ 5, XII Cap., 3<sup>rd</sup> "Dersom nogen saaer Korn eller slaar Høe udi Almindingen uden Fogdens Bevilling, da ejer Kongen baade Korn og Høe"). This law is based on older laws, e.g. "Frostatingsloven", which goes back to early medieval times (Brorson 1797). The main idea behind this law was obviously the potential for taxes and the lack of control routines in remote areas. On the other hand the law indicates that cereal growing and hay fields at the summer-farms took place. Palynological studies have also documented pollen of cereals (e.g. *Hordeum vulgare*) at several summer-farms (e.g. Øvstebø - Aurlandsdalen, Sogn & Fjordane county) (Moe and Indrelid 1986), Holsbrustølen, Årdal, Sogn & Fjordane county (Hjelle 1999).

But the use of garden plants was not regulated. One of the most commonly found plants at summer-farms is *Rheum x rhabarbarum* (garden rhubarb), often grown on sheltered and nutrient-rich place e.g. at Presteseteren and Rondablikk in Sel, Gudbrandsdalen valley (Oppland county). (Taxonomy based on Elven (2005): *R. x rhabarbarum* (= *R. hybridum* Murray, *R. officinalis*) (fig. 3). While rhubarb is mostly missing from herbaria, the plant is robust, and it seems to accept the sub-alpine climate rather well. It exists on deserted summer-farms if the plant is fenced from grazing animal.



3. - The garden-rhubarb (*Rheum x rhabarbarum*) has been used in many ways, as food, for medical purposes, and for wrapping food. Behind and to the right monkshood (*Aconitum septentrionale*) is seen, a representative of an attractive genus (Photo: D.M.).

Oral information indicates that neighbouring summer-farms were given a small root of a well established specimen growing elsewhere, as it known for the stand at Presteseteren (Sel in Rondane), which was given to, among others, Mysubuttseteren.

We do not know when rhubarb was introduced, but it may have been an old element as a garden plant as food, for wrapping, and for medical purposes among other as a laxative (Roth *et al.* 1994: 609).

Other introduced plants which are found are *Ribes rubrum* and *R. spicatum* (red and downy currants) (Bonnevieseteren). As for rhubarb, it is mostly absent from herbaria. It has been used in a traditional way. Also *R. nigrum* (black currant) has been used and recorded from Kaldalseteren (Strandebarm, Hardanger, Hordaland county) in 1916 (Herbarium BG), but so far it has not been found elsewhere.

*Rubus ideaeus* (raspberry) is found from time to time and obviously was used when present. It is, however, an open question if the plant has been introduced by humans or spread by animals/birds.

*Tanacetum vulgare* (tansy) is a plant which has been seen, growing in rather small dens stands, at summer-farms (Bonnevieseteren and Rondablikk (Sel, Oppland county) (fig. 4), and records are found from Bjørsetstølen (Jølster) and Vevring (Naustad) (both in Sogn & Fjor-



4. - The orange-yellow tansy (*Tanacetum vulgare*) together with weeds as white clover (*Trifolium repens*), bladder campion (*Silene vulgaris*), bush vetch (*Vicia sepium*), greater plantain (*Plantago major*), dandelion (*Taraxacum* sp.), timothy grass (*Phleum pratense*), - stinging nettle (*Urtica dioica*) and yarrow (*Achillea millefolium*) (Photo: D.M.).



5. - The mountain angelica (or in English the garden angelica) (*Angelica archangelica* ssp. *archangelica*) still exists at the former summer-farm at Spiterstulen. A forgotten but most useful plant that is passed during the summer season by hundreds of tourists without knowing it (Photo: D.M.).

dane county). Sometimes it also occurs at some remote farms. A special form *T. vulgare* f. *crispum* is known from the summer-farm of Solemvollen (Midtre Gauldal, Sør-Trøndelag county) (Fremstad and Solem 2005:21) (fig. 2).

Most people today look at *T. vulgare* as a weed, but the strange occurrences at summer-farms and some localities at old farms may be connected to former use, and the importance of the plant is mostly forgotten. In the manuscript made by Iver Ancher Heltzen in 1834 (Heltzen 1975) it is mentioned that all parts of the plant are used. By distillation an oil was made and used for stomach problems, against worms and also used for abortions: «I Medicin siger Tyachsen ere alle Deelee brugelige. Ved Destillation med Vand faaer man en ætherisk Olje baade af Frøe og Blomster. Den er et godt Mavestyrkende Middel men bruges mest mot Orm. Heele Urter er efter Mangor god i Bad for udeblevne Maanedstider. Blomstrerne og Frøet tages med Nytte imod Orm i Øl eller vand 3 Dage i Rad først og sist i Næet. Blomsterne kan og bruges som Thee i Modersyge». It is better known, perhaps, for its use as a spice in alcoholic beverage, and in tea – in small quantities (Pontoppidan 1752; Høeg 1994). Several chemical active compounds are known (Roth *et al.* 1994: 224).

One of the most known plant contributions to the European cultural history is *Angelica archangelica* spp. *archangelica* (garden angelica, or “*fjellkvann*” = mountain angelica in Norwegian) (fig. 5). The natural habitat is in mountain birch-willow scrub and in slightly wet habitats. The plants have been known by people for more than 1000 years and mentioned several time in the sagas and in the general literature (Fægri 1941, 1946, 1949). Many place names having “*kvann*” as a prefix are known. Its use and export were in periods very intensive, and a reduction in its distribution resulted. To keep it for local use as a resource for food and medicine use, people replanted it from natural habitats in the farm and the summer-farm. A single specimen (fig. 5) was found at Spiterstulen (-stulen/-stølen), a former summer-farm. Today it is a tourist hut in Gudbrandsdalen valley (Opland county). Pontoppidan (1752) named the species “*Angelica vera officinarum, seu Archangelica, Qvanne, and Qvanne-Ro*”, and added that the farmer at the tree-line used of it as a vegetable and tobacco and for medical purposes, etc. A special variety of *A. archangelica* spp. *vossii* with filled stems, is known from Voss, and the area a little east of the Hardangervidda plateau (Hordaland county) (Dag Olav Øvstedal pers. comm.).

*Humulus lupulus* (hop) has been known from one summer-farm at Rondane (Tine Bonnevie), but introduced rather recently. A summer-farm from western Norway is directly named Humlestølen (Sogn & Fjordane county), or translated ‘the summer-farm were they had hop’. There is however, very little more information about its former growth and the use of this species at other summer-farms, and no herbarium specimen exist.

One genus which is well known in the lowlands as well as at summer-farms is *Allium* (onions). Herbarium specimens show the use of *Allium schoenoprasum* (chives), *A. ursinum* (ransoms) and *A. fistulosum* (Welsh onions) at summer-farms, but the number of records is low and the species are hard to find today. *A. ursinum* is mentioned in 1752, and used against scurvy (Pontoppidan 1752) and as an abortive plant (Roth *et al.* 1994: 112). An old herbarium specimen of the species is collected at the Apalsetseter in Ørskog (Møre and Romsdal county).

*A. fistulosum* has already been mentioned, but at Bonneviesteren it was introduced more recently by the late owner Christine Bonnevie. The species was, however, well known growing on several grass turf roofs in the same valley of Gudbrandsdalen (fig. 6). On the roof, it was not only used as food, but also a form of symbolic protection against fire (fig. 5) in the same way as *Sempervivum tectorum* (house-leek) (Melheim 1953; Danielsen 1967; Høeg 1974).

A species which has not been found in recent time, but known in former periods is *Chenopodium bonus-*



6. - Welsh onion (*Allium fistulosum*) on the roof available for the people but away from the animal. Occasionally known on roofs during the 19<sup>th</sup> century in the valley of Gudbrandsdalen (N). From the Bonnevie summer-farm in Rondane (Photo D.M.).

English names	Scientific names	Norwegian names
yarrow	<i>Achillea millefolium</i>	ryllik
monkshood	<i>Aconitum septentrionale</i>	tyrihjelms
Welsh onions	<i>Allium fistulosum</i>	pipeløk
chives	<i>Allium schoenoprasum</i>	vanlig gressløk
ransoms	<i>Allium ursinum</i>	ramsøløk
garden angelica	<i>Angelica archangelica</i> ssp. <i>archangelica</i>	fjellkvann
caraway	<i>Carum carvi</i>	karve
Good-King-Henry	<i>Chenopodium bonus-henricus</i>	Stolt Henrik
barley	<i>Hordeum vulgare</i>	bygg
hop	<i>Humulus lupulus</i>	humle
juniper	<i>Juniperus communis</i>	einer
clubmoss	<i>Lycopodium</i> spp.	kråkefot
butterwort	<i>Pinguicula vulgaris</i>	tettegress
greater plantain	<i>Plantago major</i>	groblad
rhubarb	<i>Rheum x rhabarbarum</i>	rabarbra
black currants	<i>Ribes nigrum</i>	solbær
red currants	<i>Ribes rubrum</i>	rips
downy currants	<i>Ribes spicatum</i>	stikkelsbær
cloudberry	<i>Rubus chamaemorus</i>	multe
raspberry	<i>Rubus idaeus</i>	bringebær
alpine dock	<i>Rumex alpinus</i>	alpehoymol
northern dock	<i>Rumex longifolius</i>	hoymole
broad-leave dock	<i>Rumex obtusifolius</i>	byhoymole
willow	<i>Salix</i> spp.	vier/selje
house-leek	<i>Sempervivum tectorum</i>	takløk
tansy	<i>Tanacetum vulgare</i>	reinfann
coltsfoot	<i>Tussilago farfara</i>	hestehov
stinging nettle	<i>Urtica dioica</i>	brennesle
blue- and cowberry	<i>Vaccinium</i> spp.	blåbær/tyttebær

Table 1. - Plant names used in the text.

*henricus* (Good-King-Henry). It is known according to herbarium records (Herb. BG) before 1940 at several summer-farms up to about the tree-line (950-1000 m a.s.l. in Hordaland county (Valdalen (Røldal) (Lid and Lid 1994) and 1100 m in Sogn & Fjordane county (Aurland) (Elven 2005). The plant was known as a good tasting vegetable, but it was also used for medical purposes (Reichborn-Kjennerud 1922; Høeg 1974), but it is now forgotten today.

An interesting group of plants which nowadays occur mostly as weeds may have had a history as directly introduced and partly cultivated plants. One genus in this group is *Rumex* (docks), today, no doubt with species mentioned as weeds. Mostly forgotten by us, several of the broadleaved species in the genus was most attractive. Both *R. longifolius* (northern dock) and *R. obtusifolius* (broad-leave dock) were earlier used for food for humans and prepared also for domestic animals (Høeg 1974). Within the Alps *R. alpinus* (alpine dock) was cultivated for medical use, as fodder for animal and its leaves used for wrapping dairy products (Brochmann-Jerosch 1914, 1921; Babulka *et al.* 1983; Roth *et al.* 1994; Dickson 1996). The introduction may have taken place as early as before Christ (Maude and Moe 2005). Several

known chemical compounds are known from the genus (Roth *et al.* 1994: 624-625). It is so far not known if any other *Rumex* species were used.

Another species which belongs to the same group as *Rumex* is *Achillea millefolium* (yarrow) which was used as a spice (fig. 4). It may be a weed in most cases transported by the domestic animals (Korsmo 1935), but we should not exclude the idea that the plant in some places may also have been introduced by humans. It is found along track ways and at several summer-farms in western Norway: Vårstølen in Vik; Engstæther in Leikanger, Stølås and Lyngstæther in Frønningen (all Sogn & Fjordane county).

A last species *Aconitum septentrionale* or the whole genus *Aconitum* (monkshood) is found at several summer-farms (e.g., fig. 3). In Norway, the species is spontaneous and poisonous, but used in a water decoct for cleaning wooden barrels etc. and for also for cleaning the skin of animals for louse. Oral information indicates that some people brought the plant from nature and planted it at the summer-farm. Nearby related garden species may also have been used in the same way, so as to have the plant close by when needed.

Before we end the list of garden plants, we should keep in mind that several natural plants have always been of interest at the summer-farms. Different kinds of blueberry/cowberry (*Vaccinium* spp.) and crowberries (*Empetrum*) berry with their berries and perhaps also fungi are well known. Further north in Norway, cloudberry (*Rubus chamaemorus*) was also a favourite. In some areas butterwort (*Pinguicula vulgaris*) was used in a special way for getting sour milk (Høeg 1994; Furuset 2005); and species within the genera *Lycopodium* were used for colouring wool, coltsfoot (*Tussilago farfara*) was used as tobacco (Schübeler 1888; Høeg 1974), greater plantain (*Plantago major*) and dandelion (*Taraxacum* spp.), were both used as medical plants (Roth *et al.* 1994), and stinging nettle (*Urtica dioica*) and caraway (*Carum karvi*) (Reichborn-Kjennerud 1922; Høeg 1974) used as vegetables and spices.

Among the shrubs, willow (*Salix* spp.) is known for different reasons: for medical purposes, its bark contains salicylic acid used for headaches and fever reduction; it is rich in vitamin C and also contains protein (Høeg 1974; Pontoppidan 1752:234). Also juniper (*Juniperus communis*) was attractive, partly as a spice, and partly as water decoct (“*einerlåge*”) used in cleaning e.g. wood containers. Among the lignose species, rowan (*Sorbus aucuparia*) should not be forgotten, as it may have replanted into the ‘garden’ at the summer-farm (Fremstad and Solem 2005).

Some plants have been forgotten whereas some plants have obviously been brought up to the summer-farm, planted, and taken care of. Some were brought in

from nature, to establish a small stand and to have the resource close by. Some plants were by chance transported to the summer-farm as seed or fruit, included in the local vegetation, and some of them perhaps became useful for the people at the seasonal farm (Gerard 1633).

Do we define the small spots at the summer-farm for a garden? Yes we do, in this case we talk about some few m<sup>2</sup> fenced against animals, eager to have a change in their diet (fig. 3). Gardens not more than one or two m<sup>2</sup> are normal, sometimes only a small corner between two houses.

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