**Cereal landrace farmers in Finland and their motivation to**

**on-farm conservation**

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**Introduction**

The Finnish National Programme for Plant Genetic Resources (PGR)

(Kasvigeenivaratyöryhmä 2001) was established in 2003 to facilitate the

conservation of agricultural and forest genetic resources in Finland. MTT Agrifood

Research Finland is responsible for the coordination of the programme and for the

preservation of field and horticultural crop genetic resources. Also conservation of

landrace plants is part of the preservation programme.

Several definitions to the concept of landrace have been suggested (see

Veteläinen *et al*., 2009) . According to Veteläinen *et al*. (2009, 9) “a landrace (of

a seed-propagated crop) is a variable population, which is identifiable and usually

has a local name. It lacks “formal” crop improvement, it is characterized by a

specific adaptation to the environmental conditions of the area of cultivation

(tolerant to the biotic and abiotic stresses of that area) and is closely associated

with the uses, knowledge, habits, dialects, and celebrations of the people who

developed and continue to grow it.”

This definition of a landrace underlines a specific and essential human context: a

(local) landrace population has been evolved along with cultivation, and with

selection carried out by a farmer. Furthermore, a landrace, and an old variety as

well, is not only “pure” agricultural or horticultural input (seed or other

propagation material) or output (harvest) but also carries cultural, traditional and

other knowledge and know-how. This information is for the most part private,

unwritten indigenous knowledge.

The multidisciplinary research project ‘On farm conservation in Finland’ (during

2006-2009) studied the on-farm management of cereal landraces and farmers’

motivation to landrace cultivation in Finland. One target of the project was to gain

understanding on both social and cultural aspects that motivate farmers to grow

landraces at the present time and in the future. Also, values anchored to

landraces were highlighted. We hypothesized that the absolute value of PGR is

not enough to keep landraces in cultivation. Instead, it was supposed that a

transformation of the values to diverse use values (e.g. acknowledging good

cultivation properties, niche products) and cultural values (family, local, national

heritage) is also needed.

**Material and Methods**

The data have been collected in three stages. In the first stage, the national

programme for PGR in Finland announced the ‘National Call for Landrace and Old

commercial Cultivars of Cereals and Forages´ in the early 2006. The main

interest was in landraces but also in those old commercial cultivars that are not

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yet stored at the NordGen. A poster and a leaflet designed for the Call were

distributed nation-wide through different organisations and forums (municipal

libraries; rural advisors at the Rural Advisory Centres and municipals; various

thematic e-mail lists; some NGOs’ and their magazines; websites). Farmers were

asked to contact the national PGR programme with a written document where

they were asked to unstructuredly describe the cultivation history of their

landrace or old cultivar, its phenotype and properties.

In the second stage, an inquiry was sent to contact cereal landrace growers in

order to gain initial knowledge on who, why, where, how and what cereal

landraces are grown today in Finland. The questionnaire was also mailed to those

cereal farmers who have registered themselves in the subsidiary system of onfarm

cultivation and those who participated in the earlier inventory on 1996-

1998. In addition, we shared the contact network of Finnish plant breeders,

researchers and NGOs dealing with crop landraces in order to reach cereal

landrace farmers. On the basis of the farmer responds, they were contacted for

further information and eventually to send a seed sample for testing.

The third stage of the project aimed at gain understanding of both social and

cultural aspects that motivate farmers to grow landraces at present and in the

future. Also, values anchored to landraces have been highlighted. In total, 34

farms were contacted, and 14 persons were interviewed in five farms. In every

farm, we interviewed in addition to a farmer also his or her spouse and parents if

possible. For more details, see Heinonen & Veteläinen, 2009.

**Results**

In total, 47 notifications of cereal landraces and old cereal varieties were

received. The most of landraces were still in cultivation; in five cases they were

stored old seed (Table 1).

Table 1. The received notifications of landraces and old commercial varieties of

cereals

***Oat 2-row 4/6- Spring Winter Spring Winter***

***barley row rye rye wheat wheat***

***barley***

5 1) 3 2) - 1 23 3) 1 -

Landrace

4 2 2 - 3 1 2 4)

**Old**

**cultivar5)**

1) In two cases landrace oats had not been cultivated for a long time.

2) The very same old two-row barley was in cultivation in three separate farms.

3 ) In two cases a rye had not been cultivated for a long time. In three cases the

very same landrace winter rye was in cultivation in two separate farms.

4) The very same old variety was in cultivation in two separate farms.

5) Old cereal variety was bred before the World War II.

Source: Heinonen & Veteläinen, 2009, pp. 75.

Compared to modern cultivars, cultivation of low yielding cereal landraces and old

cultivars require acquaintance, more work and a special motivation. In most of

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the cases, the motivation welled from the cultural and symbolic value of a

landrace. Typically a landrace farmer in Finland cultivated an old winter rye

strain, which had been grown in the same family or in the home village. To a

farmer who cultivated a cereal landrace it usually represented a family tradition.

It is a family heritage which dates in some cases for several farmer generations.

It is a heritage which needs to be reproduced regularly: sowed and threshed if

not every year but at least every fifth year to be maintained. Many landrace

farmers underlined that the cereal landrace has “always”, in some cases for at

least for two centuries or even longer, grown in their family farm. They were

proud of their old and special landrace which had a history and especially a

history linked to their family. The seed and the indigenous knowledge of its

cultivation and use is part of the family memories.

A landrace had not only a symbolic value but also use value as a food. Landrace

farmers praised the taste of a bread baked from their landrace. Not only was the

history of a landrace enough for its survival but also the good taste and

cultivation properties. The cultivation properties of a landrace, in the case of

winter rye the winter hardiness was very important, were experienced good

compared to modern varieties bred by plant breeders although landrace’s yielding

capacity is lower. The areas under cultivation were very small per farm, varying

from some acres to one or few hectares, because the yield is home-consumed.

Only few landrace farmers sold it and in that case the marketing it was very small

scale, a hobby like marketing.

However, the landrace farmers were not a homogenous group of nostalgic people

but they had different economic and personal reasons for landrace cultivation.

Moreover, the family heritage was not always strong enough to keep a landrace in

cultivation and many young farmers seriously dwelled the economic prerequisites

for landrace cultivation.

We found five different types of landrace growers: 1) aged farmers; 2) young

farmers strongly valuing their landraces as a family heritage; 3) hesitating young

farmers; 4) market oriented farmers and 5) hobby growers.

**Discussion**

Cultivation and management of landraces on-farm lean greatly on the silent

knowledge and actions of farmers. In most cases, landraces are for subsistence

cultivation and self-evident part of their lifestyle. Many of the farmers have not

thought that they are on-farm maintainers but just ordinary farmers who happen

to cultivate landraces at small scale.

The ageing of landrace cultivating farmers and the declining number of farms in

general are true challenges for landrace maintenance on-farm. There is need to

study the on-farm management also from a broader perspective and to find ways

to commit new and different kind of actors in on-farm management.

Broad and versatile range of actors is needed to keep landraces in cultivation.

National support systems for on-farm maintenance of some crops are targeted to

active farmers. New activities, such as product development of landrace based

products and cultural activities, will promote the continuity of landrace cultivation.

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In the long term, however, biodiversity should be seen as also an added value,

which also has an exchangeable value on market. Thus, from the perspective of

the market, the interesting question is; how the consumers perceive the

landrace-based products, which positively contribute to the biodiversity of

agriculture.

To encourage the versatile utilisation of landraces, systematic documentation of

landrace knowledge is needed. Different perspectives, not forgetting the cultural

and historical knowledge of a single landrace, are valuable for developing and

marketing landrace-based niche products, services and other uses.

**Acknowledgements** The ‘OnFarmFinland’ project has resulted in a web-based information service

containing knowledge of Finnish landraces and old commercial varieties of some

agri- and horticultural plants. In the first phase, knowledge of cereals and

potatoes is provided. The ‘Landrace Information Service’ (MaatiaisTietoPankki

2011) is part of the web-site of the national PGR programme in Finland at the

portal of MTT Agrifood Research Finland. The information service is targeted for

present landrace farmers, hobby-gardeners, agrarian museums and other

organizations, and private persons interested. The information is expected to be

useful in restoring historical gardens and fields, in building demonstration

gardens, in education uses, in development of niche products, and in general in

enhancement of the awareness of landraces among the general public.

The project was financed by MTT Agrifood Research Finland and Ministry of

Agriculture and Forestry in Finland.

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