

Production and Marketing of Regional Seeds

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Abstract

The increasing loss of semi-natural grasslands is a very serious threat to rural development that results in negative consequences for ecology, economy and society. Site-specific species are well adapted to local conditions. With the correct selection of regional species, erosion-stable, appealing and often valuable nature-conservation plant societies can be formed. The positive ecological and economic effects of such site-specific restoration could already be proved in the course of a great many trials. A good method for the exploitation of site-specific seed material is the large-area production of seed of suitable species with the aid of agricultural techniques. Above all, species used often and in larger amounts can be produced at a comparatively reasonable price and implemented on appropriately large project areas. Together with the basic scientific work undertaken at the Raumberg-Gumpenstein Research Institute, the company of "Kärntner Saatbau" assumed responsibility for the commercial realisation of the seed production of site-specific species. "RENATURA" is the brand name given to the result of the many years of innovative cooperation through science and practice. The result of these endeavours have been regional seed mixtures containing up to 100% of site-specific seeds for the colline, montane, subalpine and alpine zones of Austria.

Key words: regional seed mixtures, ecological restoration, site-specific species

Regional Seed Mixtures for the Subalpine and Alpine Zones of Austria

First attempts were made in the 1980s in Carinthia in this field (LICHTENEGGER 2003). The basis for production of subalpine and alpine ecotypes was laid down in the subsequent ten years at the Agricultural Research and Education Centre (AREC) Raumberg-Gumpenstein (KRAUTZER 1995). In the initial stages, seeds of site-specific ecological species were gathered manually at various sites. In an extensive series of trials, various seed origins were tested for their suitability for seed production for valley locations. Following the conclusion of the trials, a spectrum of various grasses, leguminous plants and herbs proved to be especially suitable for seed production and also for implementation in alpine-restoration mixtures.

Together with the basic scientific work, which took place at AREC, a partner for the commercial realisation of the project became necessary. This was the beginning of cooperation with Kärntner Saatbau. The basis of commercial production of these species was worked on together with a great deal of enthusiasm. Following the surmounting of unavoidable setbacks, in 1995 the first seed mixtures for the restoration of ski runs and other graded areas in high locations could be offered. In the meantime, 100% of subalpine and alpine ecological species are used in the mixtures. The production encompasses a current spectrum of species comprising 16 grasses, four leguminous plants and four other herbs. The opportunity was thus created for innovative farmers and seed producers to undertake lucrative, non-regulated production. The demands placed on production technology are extremely high. Only a few seed producers with many years of experience are able to meet the extreme demands of production quality with sufficient yields.

The marketing of such niche products is subject to its own law and the market is relatively limited. A lack of legislative regulations permits, as before, the use of seed mixtures of unsuitably ecological species, which are significantly cheaper. Site-specific seed mixtures can only be sold through intensive and high-grade expert supervision of the seed buyers. The latest experiences and knowledge is passed every year at conferences, workshops, excursions and during inspections to such persons as ski-run operators, authorities, engineering offices, nature-preservation organisations, restoration firms, farmers and torrent- and avalanche authorities.

Regional Seed Mixtures for the Colline and Montane Zones of Austria

Due to the increasing importance in Europe of biodiversity and sowing with site-specific seeds in lower regions, Kärntner Saatbau decided to devote a great deal more attention to this theme. Large-area production of site-specific, regional species for restoration in lower regions has been set up in the last five years. Through the intensive cooperation between those undertaking research, nature conservation and seed producers, an exemplary project could be brought into being: “Natural Seed From Upper Austrian meadows”.

Regional seed origins of various species were gathered under the overall supervision of the nature-conservation department of the province of Upper Austria. This collection was undertaken, in part, manually. The target species were thus harvested at the respective optimum point in time. The seed collected manually was and will be pre-reproduced at AREC Raumberg-Gumpenstein on small sites and monitored for their suitability for seed production in large areas. Another part of the original material for seed production was won from field threshing. With this method the donor areas are harvested at the time of optimum seed maturity of the target species. Harvesting takes place with a standard commercial combine harvester. After threshing the threshed material is dried and the different target species are separated by a special cleaning technique. As a result of these efforts, 16 species have in the meantime been reproduced. There are an additional 24 species in the process of pre-reproduction at AREC Raumberg-Gumpenstein.

Within the sphere of this work in recent years, a spectrum of special seed mixtures has been developed for restoration in lower regions. The focus was placed on areas that engender high costs for care and maintenance, such as roadside embankments or railway embankments (www.saatbau.at). Through the use of site-specific seed mixtures, the expenditures for maintenance could be drastically reduced. On the other hand, these mixtures are also used in the private garden, for the restoration of commercial areas or public green areas.

Marketing and Distribution

The marketing of such mixtures is difficult. Most tenders for landscaping permit, as before, the use of seed mixtures that of ecologically unsuitable species or origin, which are generally cheaper. Site-specific, regional seed mixtures are currently only saleable through intensive and high-grade expert care of seed buyers. A fundamental criterion for the nature-conservation value of site-specific seeds, but also for the protection of potential seed buyers, lies in the proof of their regionalism. To provide consumers with appropriate assurance, certification procedures with a seal of quality that guarantee the region of origin of the seed (ROMETSCH 2009; www.natur-im-vww.de) already exist in several European countries. Thus the origin, as well as the standard of the seed quality (purity, germinative capacity) is guaranteed. There are also intensive efforts undertaken in Austria to certify regional seed material from seed production, threshing or plant clippings. The entire process of the collection of the seed origins and their reproduction is in the meantime monitored by an

independent office (www.rewisa.at) and the harvested material certified according to the “Control Guidelines for the Winning and Sale of Regional Wild Plants and Seeds” (KRAUTZER & PÖTSCH, 2009, PÜHRINGER 2010). In this way a transparent system is created in which the path of the seed from the areas of origin to the consumers is made apparent. Thus in the future a quantum leap in respect of the quality of tenders for restoration of semi-natural grassland, roadsides and landscaping should be achieved.

In practice the use of site-specific seed mixtures often fails due to their inexperienced use. Site-specific seed mixtures are tendered for use with a false technique or false soil structure (due to being too rich in nutrients). This on the other hand leads to problems with customer satisfaction because the combination of site-specific seed mixtures with a false technique and/or false soil structure does not lead to the expected result. The latest experience and knowledge should therefore be passed on to groups of persons, authorities, engineering offices, nature-conservation organisations and restoration firms at conferences, workshops, excursions and during inspections. It will be necessary in the medium-term to undertake adaptation in respect of existing norms in landscaping.

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