

Native Prairie

STEWARDSHIP

HARVESTING AND MARKETING NATIVE SEEDS

FACT SHEET

Do you have an interest in native plants? Do you live in an area where native plant communities are present? Would you like an opportunity to earn some extra money? If you answered yes to any of these questions then read on.

Harvesting and selling native seeds may offer an opportunity for you to earn money while preserving native plant communities and promoting the use of the plants that for so long have been taken for granted. Markets currently exist for the seeds of native grasses, wildflowers, wetland species, shrubs and trees. Harvesting native seeds is an activity suitable for young and old. Anyone who can get out and properly identify the plants and harvest the seed can do it. It is especially suited for residents of rural areas, providing an opportunity to earn extra income where such opportunities are limited.



What is a native plant

Native plants are those plants that have evolved and were present here before the time of European settlement. They have adapted to the local soil, climatic, and biotic environments over the course of thousands of years. A growing awareness and appreciation of the value of these plants from an aesthetic, agricultural, environmental and cultural point of view has created a demand for their seeds.



What you need to know

Before you begin

Before heading out into the field to harvest seed you will need to do a little homework first. Basic knowledge of the species to be harvested is required. The potential seed harvester must become adept in plant identification. Knowing the plant's habitat, when it produces ripe seeds and whether or not the seeds must be harvested quickly before they are shed is important for success. You must be able to distinguish the desired species from other similar species. In order to establish yourself as a reliable seed collector, you must be able to consistently provide mature viable seed of the proper species. Learn to recognize rare and endangered plants. Do not harvest seed of those species. The Conservation Data Centre of Saskatchewan Environment and Resource Management can provide a list of the province's rare and endangered plants.

Get permission first

Unless you are harvesting seed on your own land permission from the landowner or leaseholder will be required. Some may wish to charge a commission for the privilege of harvesting. If this is the case be sure to work out the details before beginning to harvest. In the case of Crown lease land, permission is required from both the leaseholder and the Lands Branch of Saskatchewan Agriculture and Food (SAF). Permits are required to harvest seed on provincial forest land. The local office of Saskatchewan Environment and Resource Management (SERM) can provide details. Seed collecting is generally not allowed in provincial parks. Permission may be granted to harvest seed in PFRA Community Pastures. Contact the District Land Manager for the proper procedure.

Permission may also be granted for provincial community pastures. Contact the pasture manager and SAF for details. Seed harvesting may be permitted on lands owned and administered by Ducks Unlimited Canada. Contact their nearest office for more information. Seed harvesting is typically not allowed on lands purchased by the Saskatchewan Fish and Wildlife Development Fund (SFWDF) or the Saskatchewan Wildlife Federation. However, exceptions may be made with the SFWDF lands. For more information contact SERM, Wildlife Branch.

Getting started

The equipment required depends on what you are harvesting and the quantities you intend to harvest. It can be as simple and inexpensive as some plastic pails and cloth bags, to more costly pull-type mechanical seed strippers capable of covering 1-2 acres per hour for large scale grass seed harvesting. Portable hand-held seed strippers are also available for use in rough terrain. Anyone considering large equipment purchases should be sure of their markets.

Many wild plant species are unpredictable in their seed production, producing large amounts of seed some seasons and little or none in others. Because of this it is wise to do some preliminary scouting prior to the harvest period to determine seed availability. This would be late spring and early summer for most grassland species and mid-summer for trees and shrubs.

Harvesting

Once you've acquired your equipment, located seed producing stands and determined when the seed is mature, you are ready to begin. Fruits, cones, pods and seed heads are hand-picked into pails or bags to bring home for drying and cleaning. If a seed stripper is used the equipment is operated over the seed bearing plants according to the manufacturer's directions.



Native prairie provides the source for seed collection.



For reclamation and restoration purposes wild collected seed is sometimes desired over cultivated seed if it is harvested locally. If you live in an area where projects are occurring that may require some reclamation and restoration work, you may have an advantage in that you can provide local seed. Be on the lookout for opportunities such as these.

If the seed you are harvesting is for restoration purposes make sure that seed is collected from numerous individuals to ensure that sufficient genetic diversity is present in your seed collection. This is best done by selecting individuals growing under differing local conditions and maturing seed at different times.

Seed harvested from different areas is best kept separate. It is always possible to combine several seed sources at a later date for a larger purchase if seed source is not critical.

When harvesting seed of native grasses it is important to avoid contamination with the seed of noxious weeds and non-native grasses. Many of the introduced grasses, especially quack grass, smooth brome and crested wheat grass are extremely invasive of native grass stands and the presence of their seed even in very small amounts may cause your seed to be rejected by some users. Thoroughly check the area for the presence of non-native species before harvesting, particularly if you are using a mechanical stripper. Talk to potential buyers about their tolerance levels before harvesting.

Caution is required in areas with sensitive soils and vegetation which is prone to erosion and damage. Vehicle traffic, even ATV's, can disturb the plant cover and damaged areas often provide corridors for the establishment of weedy and invasive exotic plants. Foot access only is recommended in these areas.

Keep detailed records of time and money spent harvesting to help determine prices. Seed is often harvested but not processed until later so the actual quantity of cleaned seed obtained may not be known until that fall or winter.

By keeping records from year to year you can get a more accurate estimate of seed yield while still in the field. Unfortunately much of this information can only be obtained through trial and error.

Unlike many domesticated plants, many native plants ripen their seed over an extended period of time and shed their seed soon after ripening. This is simply nature's way of not putting all her eggs in one basket. At any one time in a particular location, plants may be present that have shed seed, and contain ripe and unripe seed. For some species the period of time from when the seed is mature to when it is shed may only be a few days. For others it may be months. Knowledge of the particular species you are interested in is important when planning harvesting activities. Delaying harvesting of those species which shed their seed slowly and concentrating on the species whose seed is quickly lost can extend the harvesting season.

Handling your seed

Cleaning

Native seeds harvested with mechanical strippers may contain a lot of extraneous material which must be removed. Some buyers have their own cleaning equipment and will clean the seed and pay you according to the quantity of clean seed. In addition, many species have seeds which contain long awns which must be removed to facilitate mechanical sowing. A few seed-cleaning plants are capable of handling some native seeds and will custom-clean larger quantities.



Species, such as wild rose and pin cushion, cactus, may be collected and marketed.

Seed of most trees and shrubs require more processing than many of the grassland species. Plants whose seed is contained in fleshy fruits or berries will need to have the seed separated from the flesh. This is done rather easily by thoroughly but gently crushing the fruit and separating the mixture in a container of water. Filled, sound seeds will sink and the fleshy portion of the fruit can be floated off. Cones from coniferous trees such as spruce and larch and the catkins of alder open during drying, releasing the seeds. Cones of our native pines do not open easily and must be heated for a short period of time prior to drying. Cones and catkins remaining after the seed has been removed may also be marketable for use in crafts. For more detailed information on handling tree and shrub seed consult the references listed on the back page. Proper handling and cleaning of seeds assures that high quality seeds are obtained.

Seed testing

Many seed buyers require seed to be tested for the presence of noxious weeds and germination prior to purchase. However, as many native plants produce seeds that are dormant in varying degrees, simple germination tests may be poor indicators of seed quality. Dormancy breaking procedures are often required prior to conducting a germination test. The tetrazolium test which tests for the presence of live tissue, is also sometimes used. Labs are present which will conduct these tests.

Storage

Because of the erratic nature of seed production for some native species, it is often possible to collect more seed that can be sold in the current year. Proper post-harvest handling and storage can maintain seed quality and viability for several years, allowing for seed sales when seed production of those particular species fails. Most seeds prefer to be stored cool and dry although there are a few exceptions. Many seeds can be stored for years in sealed containers in the home freezer.

Marketing

The markets for native seeds are as varied as the plants themselves. Native plants have been used for reclamation and restoration of disturbed areas, wildlife habitat plantings, ornamental plantings, grazing and forage production, fruit, roadside plantings, forestry, medicinal purposes and as low maintenance landscaping plants. In fact the potential uses of native plants is limited only by one's imagination.

Over the years we have been systematically replacing our native plant communities, especially

our grassland communities with plants from other continents. Areas reseeded to perennial plants have typically been sown with non-native species. It is only recently that native plants have been used more extensively. As such the full market potential of native plant material has yet to be determined and the ability of the seed industry to supply many native seeds is still limited.

Existing markets for many species may be extremely limited and the demand may be met by only a few individuals. Determine your markets before investing too much time and money in collecting seed that may not be saleable. That said, often when harvesting, you may encounter other species which are producing large amounts of seed but for which the market is unknown. In such cases don't be afraid to take a chance. You may be pleasantly surprised.

Many reclamation mixes contain both cultivated seed and wild seed. The bulk of the mix may be cultivated seed with wild harvested seed accounting for only a few species. This is done to reduce costs. However, several important grass species do not yet have cultivars or ecovars available. These species may be easier to sell and command a better price.



Photo courtesy J.P. Morgan, Prairie Habitats Inc.

Commercially available seed stripper.

Pricing

Prices paid for seeds of native plants vary from \$5.00-6.00/kg for some grass species to in excess of \$1000.00/kg for other species. Price depends on seed availability, demand, seed size, use and labour required to harvest. Be aware that high seed prices may not mean higher profits for the harvester. Such seeds can be very time consuming to harvest and will probably be in very limited demand.

When selling seed into an existing market there is little choice but to price competitively. If this is the case, reducing your costs increases your profitability. However, you may encounter situations in which the seed you have harvested has not previously been available or is available only infrequently. In this case the harvester may be in the enviable position of setting the price. When determining your price, things to consider are not only your time and expenses to harvest, clean, test and package the seed, but also the potential size of the market and whether the seed price will facilitate or hinder market development.

As most tree and shrub seed is harvested by hand labour costs account for a large proportion of the value of these seeds. Many species for which seed is currently available are quite competitively priced and may not be economical to harvest except during years of high seed production. Because trees and shrubs are rarely direct-seeded and seed is used in nursery conditions, prices per kg tend to be higher than many grassland species. However, for the same reason markets are typically more limited.

Seeds of native plants are often higher-priced than domesticated species and non-native species are sometimes chosen simply because of lower cost. Anything a harvester can do to reduce their cost and pass the savings on to customers will encourage the use of and increase the markets for seeds of native plants.

Native Plant Society of Saskatchewan

Anyone serious about harvesting, producing and marketing seeds of native plants is encouraged to join this group. The Society was formed in 1995 for the purpose of communication, conservation of native plants and their ecosystems and promoting the use of native plants. The group has published a market survey of native plant material which includes a directory of buyers and sellers of native plants and of companies providing services pertinent to the native plant industry.

Harvesting seed can be hard work but the rewards, financial and others, can be significant. Not only can you be making money, you will be helping preserve and propagate the plants that are a part of the natural heritage of this land.

For more information on harvesting and marketing native plant seeds contact:

Saskatchewan Wetland Conservation Corporation
Room 202-2050 Cornwall Street
Regina, Sask. S49 2K5
Tel: (306) 787-0726
Fax: (306) 787-0780
e-mail: swccnet@wetland.sk.ca

Native Plant Society of Saskatchewan,
Inc.
Box 280
Estevan, Sask. S4A 2A3
Tel: (306) 634-9771
Fax: (306) 634-6682

Sources of Equipment and Services

Manufacturer of Hand-Held Portable and Pull-Type Seed Strippers

Prairie Habitats Inc.
Box 1
Argyle, Man. ROC OBO
Tel: (204) 467-9371
Fax: (204) 467-5004
e-mail: www.prairiehabitats.com

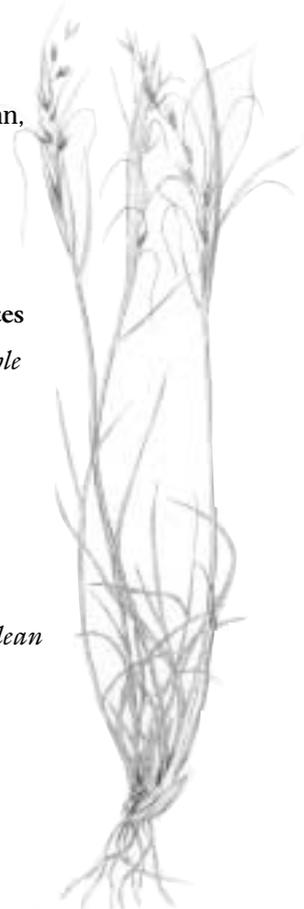
Seed cleaning facilities equipped to clean native seeds.

Canadian Wildlife Service
Last Mountain Lake NWA
Simpson, Sask. SOG 4M0
Tel: (306) 836-2022
Fax: (306) 836-4440

Newfield Seeds
Box 100
Nipawin, Sask. SOE 1E0
Tel: (306) 862-3468
Fax: (306) 862-9505
* larger quantities only

Seed testing labs
Discovery Seed Labs Ltd.
Bay #4-1527 Ontario Ave.
Saskatoon, Sask. S7K 1S7
Tel: (306) 249-4484
Fax: (306) 249 4434

Priority Lab Services
Box 1180
Nipawin, Sask. SOE 1E0
Tel: (306) 862-4212
Fax: (306) 862-4440



Helpful References

- Abouguendia, Z. 1995. *Seeded Native Range Plants*. Grazing and Pasture Technology Program and Extension Service, Saskatchewan Agriculture and Food.
- Hardy BBT Limited. 1989. *Manual of Plant Species Suitability for Reclamation in Alberta*. 2nd ed. Alberta Land Conservation and Reclamation Council Report No. RRTAC 89-4.
- Joyce, J. 1993. *Native Plants. Exploring Grass Seed Production and Markets*. Agriculture Canada, Prairie Farm Rehabilitation Administration and Ducks Unlimited Canada.
- Looman, J. and K.F. Best. 1979. *Budd's Flora of the Prairie Provinces*. Agriculture Canada Publication No. 1662.
- Looman, J. 1982. *Prairie Grasses Identified and Described by Vegetative Characteristics*. Agriculture Canada Publication No. 1413.
- MacDonald, B. 1986. *Practical Woody Plant Propagation for Nursery Growers*. Vol.1. Timber Press. Portland, Oregon.
- Morgan, J.P., D.R. Collicutt and J.D. Thompson. 1995. *Restoring Canada's Native Prairies. A Practical Manual*. Prairie Habitats. Argyle, Manitoba.
- Moss, E.H., 1983. *Flora of Alberta. A Manual of Flowering Plants, Conifers, Ferns and Fern Allies found growing without Cultivation in the Province of Alberta, Canada*. 2nd ed. Revised by J.G. Packer. University of Toronto Press. Toronto.
- Nernberg, D. 1995. *Native Species Mixtures for Restoration in the Prairie and Parkland Ecoregions of Saskatchewan*. Mixed-Grass Prairie Habitat Restoration Project.
- Regina Prairie Garden Project. 1996. *Growing a Native Prairie Garden*.
- Solutions 2000+ Management Consultants. 1997. *Market Assessment of Native Plant Materials in Saskatchewan*. Native Plant Society of Saskatchewan and Northwest Saskatchewan Grasslands Association.
- Vance, F.R., J.R. Jowsey and J.S. McLean. 1984. *Wildflowers Across the Prairies*. Douglas and McIntyre, Toronto.
- Young, J.A. and C.G. Young. 1992. *Seeds of Woody Plants in North America*. Dioscorides Press. Portland, Oregon.

Project Partners

The Saskatchewan Wetland Conservation Corporation acknowledges the contributions of the following partners:

- Agriculture and Agri-Food Canada through the Agriculture Institute of Management in Saskatchewan, Agricultural Environmental Stewardship Initiative, Canada-Saskatchewan Agricultural Green Plan Agreement, Canadian Adaptation and Rural Development in Saskatchewan, Canadian Agriculture Rural Communities Initiative
- Canada Millennium Partnership Program
- Canadian Wildlife Service and World Wildlife Fund (Endangered Species Recovery Fund)
- Ducks Unlimited Canada
- Environment Canada through EcoACTION
- Government of Canada Habitat Stewardship Program for Species at Risk
- National Fish and Wildlife Foundation (U.S.)
- Nature Conservancy of Canada
- Saskatchewan Environment and Resource Management through the Fish and Wildlife Development Fund
- SaskPower-Shand Greenhouse
- TD - Canada Trust Friends of the Environment Foundation
- Wildlife Habitat Canada
- World Wildlife Fund

