

Greencover Canada – Regional Technical Assistance Component

**Development of Perennial Native Species Stands in the Black Soil Zone in
Saskatchewan & Manitoba**

Final Report

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Submitted by: Saskatchewan Forage Council
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Project Title: Development of Perennial Native Species Stands in the Black Soil Zone in Saskatchewan & Manitoba

File Number: 1582-5-5-27

Project Description:

Currently in the Black soil zone in Saskatchewan and Manitoba, there is an information gap for producers and the agriculture industry on the successful integration of seeded native plantings for pasture or hay. With the implementation of Greencover Canada's Forage Conversion program and the National Farm Stewardship Program (Beneficial Management Practice # 10 – Riparian Area Management Practices, BMP #13 – Land Management for Soils at Risk, BMP #21 – Enhancing Wildlife and Biodiversity) producers were able to access financial assistance when using native plants. To date there are relatively few fields which have been converted to native perennial plants, (<6000 acres in Saskatchewan and Manitoba) with the majority of the conversion occurring in the Brown and Dark Brown soils in Saskatchewan. In order for producers and industry to adopt and promote the successful integration of native plants in other soil zones, this project aimed to successfully establish representative fields using native plants.

Project partners included Ducks Unlimited Canada, Native Plant Society of Saskatchewan, Saskatchewan Watershed Authority, Agriculture and Agri-Food Canada – Semi-arid Prairie Agriculture Research Centre, Proven Seed, Native Plant Solutions, Saskatchewan Ministry of Agriculture, Agri-Environmental Group Plan participants and regional producer grazing and forage clubs. In Manitoba partners included the Manitoba Forage Council, the province's grazing club network, selected conservation districts and regional Ducks Unlimited Canada offices.

Project Objectives:

The project objectives were to select 6 x 40 acre sites (on producers' land) across the black soil zone in Saskatchewan and Manitoba and seed a perennial native plant blend, providing field scale demonstrations of how cultivated land converted to perennial cover using native plants (grass and forbs) could be successfully integrated into a producer's land base. Once established, these fields (post-establishment) will be utilized by producers and may be hayed or grazed.

Results:

In total, six sites were chosen in the Black soil zone across Manitoba (2 sites) and Saskatchewan (4 sites). In order for producers and the agriculture industry to see how these plants develop and are utilized in agriculture systems, each field was approximately 40 acres in size which replicates a paddock or hay field. In addition, a 40 acre field is sufficiently large to facilitate grazing management, minimizes the threat of selective grazing by livestock and replicates the size of fields producers may adopt and integrate on their own land base. To ensure successful establishment, various partners were involved in the field selection and species selection. Once established, these fields will be used by the landowners in the manner the producer had originally intended (hay/pasture). There were no grazing restrictions or harvest dates stated. Through the producer's experience with these fields, other producers and extension agents will be able to evaluate

these stands with respect to the landowner's own expectations and relative to other tame forage stands.

In the field season of 2007, the six cooperators (Table 1) were approached and offered 40 acres of a native seed blend and \$15 per acre to seed the forage blend. The native grass-legume blends (Appendix 1) were developed by Ducks Unlimited Canada's Agrologists using site adapted species and Proven Seed Ecovars. Producers followed proper agronomic practices to seed the blend. Once established, these sites are to be used as a bench mark on how these stands are able to perform with integrated agriculture use through either haying or pasturing livestock.

Table 1- Field Locations & Seeding Blends

Name of Producer	Province	RM	Land Location	Blend #	Date Seeded	Method of Seeding	Stand Assessment
Kaskiw	MB	183	NE 30-18-24 W1	#2	Oct '07	pre-worked, cultivated Land, Truax drill	To be completed in spring of '09
Todd Nasea	SK	32	NW 27-4-32 W1	#2	Aug '07	conventional, summerfallow, hoe drill	3 leaf stage, moderate
DUC	SK	245	NE 24-25-9 W2nd	#1	June '07	standing stubble , zero till drill	good
Darrel Stadnyk	SK	371	SE 1-37-25 W2nd	#1	June '07	broadcast and harrow	good
John Kindrachuk	SK	436	NW 20-43-22 W3rd	#1	June '07	broadcast and harrow	good
Site 6*	MB		n/a				

* Site 6 was unable to be seeded due to environmental conditions.

With the successful establishment of five sites in the black soil zone across Manitoba and Saskatchewan, each landowner will be able to gain experience utilizing their native plantings within their own operation. As well, each site will provide a working demonstration and the opportunity to receive testimonials from the producers on each site. Some of the uncertainties of these stands will be the agronomic performance relative to tame stands, stand competitiveness to weed pressure, stand longevity and their other uses such as stockpiled feed. Many of these questions will be answered in subsequent years.

With the promotion of native plants in various cover programs, these five sites will provide landowners, local grazing groups and extension staff valuable information on how native plants may be integrated into agriculture production systems.

Work has begun to disseminate the very preliminary findings of this project, including establishment agronomic information and costs. Communication activities will continue as sites are further evaluated and production information becomes available. Final report findings will be publicized through websites, press releases and articles. Sites will continue to be monitored for establishment success and utilization by producers. This information will be disseminated, providing critical information regarding the success and use of native species in the Black soil zone.

Project Statement of Claim (to March 31, 2008)

Description	Proof of Payment	Total Amount	Total GST	Non-Refundable GST	Total Claimed
Identify & Seed Sites					
Ducks Unlimited Canada	Mar 28/08 Ch#1588	15,482.70			15,482.70
Establishment Inspections					
Ducks Unlimited Canada	Mar 28/08 Ch#1588	1,500.00			1,500.00
Communication Activities					
Saskatchewan Forage Council staff		5,950.00			5,950.00
Administration					
phone, fax, website, office supplies, postage		2,293.27			2,293.27
Total Expenditures		25,225.97	-	-	25,225.97

**50% non-refundable portion of GST claimed as eligible expense
See attached invoices and proof of payment**

TAC Total Eligible Expense Reimbursement Claim

\$25,225.97

I certify that the amounts included in this claim were incurred for the completion of the project funded under the Greencover Canada Program.

Janice Bruynooghe
SFC Executive Director

Date

Project Financial Summary

Project Costs	Budget	Actual
Greencover TAC contributions	\$25,225.97	\$25,225.97
In-kind contributions	\$10,800.00	\$10,800.00
Total	\$36,025.97	\$36,025.97

Notes: Greencover TAC contributions include Statement of Claim to March 31, 2008.
In-kind total actual contributions provided by Ducks Unlimited Canada, Saskatchewan Ministry of Agriculture, Manitoba Forage Council and local landowners.

Appendix 1

Blend #1 TAC Black Soil Native Mix

Species	Variety	PLS lbs/ac	seeds/ lb	PLS seeds/ sq ft
oats		10.0		
western wheatgrass	WR Poole	1.0	110,000.0	2.5
northern wheatgrass	Co 1	1.7	154,000.0	6.0
slender wheatgrass	Co 1	0.5	159,000.0	1.8
awned wheatgrass	Sprig	0.6	138,000.0	1.9
canada wildrye	Mandan	1.0	115,000.0	2.6
june grass	Canada #1	0.04	1,710,000.0	1.6
rough fescue	Canada #1	0.6	357,000.0	4.9
purple prairie clover	Canada #1	0.3	300,000.0	1.7
green needlegrass	Mallard	<u>2.2</u>	181,000.0	<u>9.1</u>
		7.89		31.9

Blend #2 Estevan and Manitoba TAC Black Soil Native Mix

Species	Variety	PLS lbs/ac	seeds/ lb	PLS seeds/ sq ft
oats		10.0		
western wheatgrass	WR Poole	1.0	110,000.0	2.50
northern wheatgrass	Co 1	0.75	154,000.0	2.63
slender wheatgrass	Co 1	0.1	159,000.0	0.36
awned wheatgrass	Sprig	0.4	138,000.0	1.25
purple prairie clover	Canada #1	0.25	300,000.0	1.70
little bluestem	Taylor	1.0	260,000.0	5.91
switchgrass	Co 1	0.5	389,000.0	4.42
big bluestem	Co 1	2.5	165,000.0	9.38
side oats gramma	Co 1	1.0	191,000.0	4.34
green needlegrass	Mallard	1.0	184,000.0	4.18
		8.5		36.67