



Aging the Doug Jackson Cores – Set V

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**Abstract**

In the fall of 2013, 34 tree cores were sampled at various locations across Saskatchewan by Doug Jackson and Shannon Poppy’s crews (University of Saskatchewan). As part of the four-year Agricultural Greenhouse Gases Program (AGGP) these cores were sent to the Mistik Askiwin Dendrochronology Lab (MAD Lab) for analysis. The purpose of this study was to identify the age of each sample.

## Introduction

The Agricultural Greenhouse Gases Program (AGGP) is tasked with determining the potential impact that shelterbelts in Saskatchewan have as a greenhouse gas mitigation strategy. The analysis of a variety of tree species present in diverse microclimatic regions across Saskatchewan will ultimately allow for the development of modeled scenarios that will help to maximize carbon sequestration and biomass production through the implementation of different agroforestry practices. In order to allow for the cross-referencing of biomass production data with annual growth increments, tree core samples taken by Team Van Rees/Jackson/Poppy were sent to the MAD Lab for analysis.

## Methods

Thirty-four tree core samples were taken at various locations in Saskatchewan by Doug Jackson and Shannon Poppy's crews. All 34 were white spruce (*Picea glauca*). All samples were sent to the MAD Lab for analysis.

Samples were glued into slotted mounting boards, and subsequently sanded with increasingly finer sanding paper (60, 80, 120, 220, 320, and 400 grit) in order to reveal the annual-growth rings of the wood. Rings were analyzed and counted using a mounted Velmex staging system with an accuracy of 0.001 mm. The age of each core was determined.

## Results

Measuring of tree samples provided a ring count for each core. Some samples did not extend to the pith of the tree while others were broken in several pieces, explaining the discrepancies in age count for such trees.

**Table 1. Age and time span of trees sampled Summer 2013, Saskatchewan, Canada.**

ID	Time Span		Age	ID	Time Span		Age
Field A	1970	2013	43	Gress A	1996	2013	17
Field B	1967	2013	46	Gress B	1995	2013	18
Jacob A	1998	2013	15	Lauber A	1984	2013	29
Jacob B	2000	2013	13	Lauber B	1985	2013	28
Manson A	1996	2013	17	Hritzuk A	1985	2013	28
Manson B	1998	2013	15	Hritzuk B	1984	2013	29
Boser A	1986	2013	27	Cameron A	1998	2013	15
Boser B	1991	2013	22	Cameron B	2001	2013	12

**Table 1 con't.**

<b>ID</b>	<b>Time Span</b>		<b>Age</b>	<b>ID</b>	<b>Time Span</b>		<b>Age</b>
Surine A	1942	2013	71	Ferland A	1959	2013	54
Surine B	1935	2013	78	Ferland B	1966	2013	47
Bane A	1993	2013	20	Frost A	1975	2013	38
Bane B	1991	2013	22	Frost B	1990	2013	23
Harris A	1999	2013	14	Denman A	1995	2013	18
Harris B	1997	2013	16	Denman B	1996	2013	17
Bryden A	1996	2013	17	Taylor A	1999	2013	14
Bryden B	1999	2013	14	Taylor B	1998	2013	15
Payne A	1978	2013	35				
Payne B	1976	2013	37				

\*\* See excel file “Doug’s Cores Report 3-4-5.xls” for more detail \*\*