



Aging the Doug Jackson cores- Set I

Jacqueline Carverhill, Cecilia Jennings, and Colin P. Laroque

**MAD Lab Report 2013-09**

Mount Allison University, Department of Geography and Environment

Mount Allison Dendrochronology Lab

## **Table of Contents**

Abstract .....	2
Introduction .....	3
Methods .....	3
Results .....	3-4

## **Abstract**

In the spring of 2013, 65 tree cores were sampled at various locations across Saskatchewan by Doug Jackson and his crews (University of Saskatchewan). As part of the four-year Agricultural Greenhouse Gases Program (AGGP) these cores were sent to the Mount Allison Dendrochronology 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

Sixty-five tree core samples were taken at various locations in Saskatchewan by Doug Jackson and Shannon Poppy's crews. Sixteen cores were white spruce (*Picea glauca*), fourteen were green ash (*Fraxinus pennsylvanica*), four were Manitoba maple (*Acer negundo*), and eighteen were hybrid poplar (*Populus spp.*). Remaining cores were not labeled with an identifiable species code. 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 in set I during Spring 2013, Saskatchewan, Canada.**

ID	Time Span		Age	ID	Time Span		Age
RiemerA	1963	2012	50	BernA	1983	2012	30
RiemerB	1963	2012	50	BernB	1982	2012	31
KelseyA	1996	2012	17	PersHPA	1998	2012	15
KelseyB	1987	2012	26	PersHPB	1997	2012	16
YobbA	2004	2012	9	PersSPA	1997	2012	16
YobbB	2003	2012	10	PersSPB	1996	2012	17
TealA	2004	2012	9	MolnarA	1985	2012	28
TealB	2008	2012	5	MolnarB	1983	2012	30

**Table 1 con't.**

<b>ID</b>	<b>Time Span</b>		<b>Age</b>	<b>ID</b>	<b>Time Span</b>		<b>Age</b>
FordA	1987	2012	26	MichA	1989	2012	24
FordB	1986	2012	27	MichB	1989	2012	24
OlsenA	1987	2012	26	PurdueA	1983	2012	30
OlsenB	1989	2012	24	PurdueB	1984	2012	29
BuitA	1996	2012	17	ZymiakA	1980	2012	33
BuitB	1990	2012	23	ZymiakB	1980	2012	33
PerryA	1970	2012	43	SikorA	2008	2012	5
PerryB	1977	2012	36	SikorB	2007	2012	6
LekachA	1981	2012	32	PateA	2005	2012	8
LekachB	1979	2012	34	PateB	2008	2012	5
SenftA	1998	2012	15	LittleA	1994	2012	19
SenftB	1998	2012	15	LittleB	1994	2012	19
HaggieA	1983	2012	30	TchozA	1975	2012	38
HaggieB	1973	2012	40	TchozB	1977	2012	36
RogalaA	1986	2012	27	WallenA	1997	2012	16
RogalaB	1986	2012	27	WallenB	1997	2012	16
MandziaA	2007	2012	6	BersA	1978	2012	35
MandziaB	2008	2012	5	BersB	1978	2012	35
HillianA	1990	2012	23	BartA	1992	2012	21
HillianB	1985	2012	28	BartB	1993	2012	20
MesserA	1996	2012	17	JamieA	1990	2012	23
MesserB	1995	2012	18	JamieB	1989	2012	24
OakesA	1997	2012	16	CorbA	1985	2012	28
OakesB	1996	2012	17	CorbB	1988	2012	25
MurphyA	1991	2012	22	HerA	1993	2012	20
MurphyB	1991	2012	22	HerB	1994	2012	19
FliessA	1979	2012	34	LheurA	1982	2012	31
FliessB	1978	2012	35	LheurB	1982	2012	31
NilsA	1978	2012	35	LheurC	1997	2012	16
NilsB	1966	2012	47	StoneA	1957	2012	56
NilsC	1972	2012	41	StoneB	1949	2012	64
NilsD	1965	2012	48	StoneC	1961	2012	52
NilsE	1966	2012	47				

\*\* See excel file “Doug’s Cores 2013.xls” for more detail \*\*