



Aging the Doug Jackson Cores – Set III

Victoria Millette and Colin P. Laroque

**MAD Lab Report 2013-14**

University of Saskatchewan, Department of Soil Science

Mistik Askiwin Dendrochronology Lab

**Table of Contents**

Abstract ..... 2

Introduction ..... 3

Methods ..... 3

Results ..... 3

**Abstract**

In the fall of 2013, 12 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 an age analysis.

## Methods

Twelve tree core samples were taken at various locations in Saskatchewan by Doug Jackson and Shannon Poppy’s crews in the fall of 2013. Four of these cores were green ash (*Fraxinus pennsylvanica*), and eight 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
Smith A	1980	2013	33	Burton A	2000	2013	13
Smith B	1981	2013	32	Burton B	1996	2013	17
Rochel A	1979	2013	34	Rinsdale A	1995	2013	18
Rochel B	1969	2013	44	Rinsdale B	2000	2013	13
Coulter A	1996	2013	17				
Coulter B	1997	2013	16				
Grenier A	1991	2013	22				
Grenier B	1994	2013	19				

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