

Summer 6-8-2008

# Dendrochronological Analysis of The University of Akron, Wayne College Barnet-Hoover Farmhouse, Wayne County, Ohio

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**Dendrochronological Analysis of  
The University of Akron,  
Wayne College Barnet-Hoover  
Farmhouse, Wayne County, Ohio**

**June 8, 2006**



Report submitted to Tamara Lowe.

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**General Analysis:** Cores and sections from the Barnet-Hoover Farmhouse and beam pile located near the house were processed and crossdated (Fig 1) at the Wooster Tree Ring Lab using standard dendrochronological techniques (Stokes and Smiley, 1968). These techniques include preparing the cores surfaces, counting rings, measuring and crossdating ring-widths. Ring-widths were measured to the nearest 0.001 mm and crossdating was performed visually and using the computer program COFECHA (Holmes, 1983).

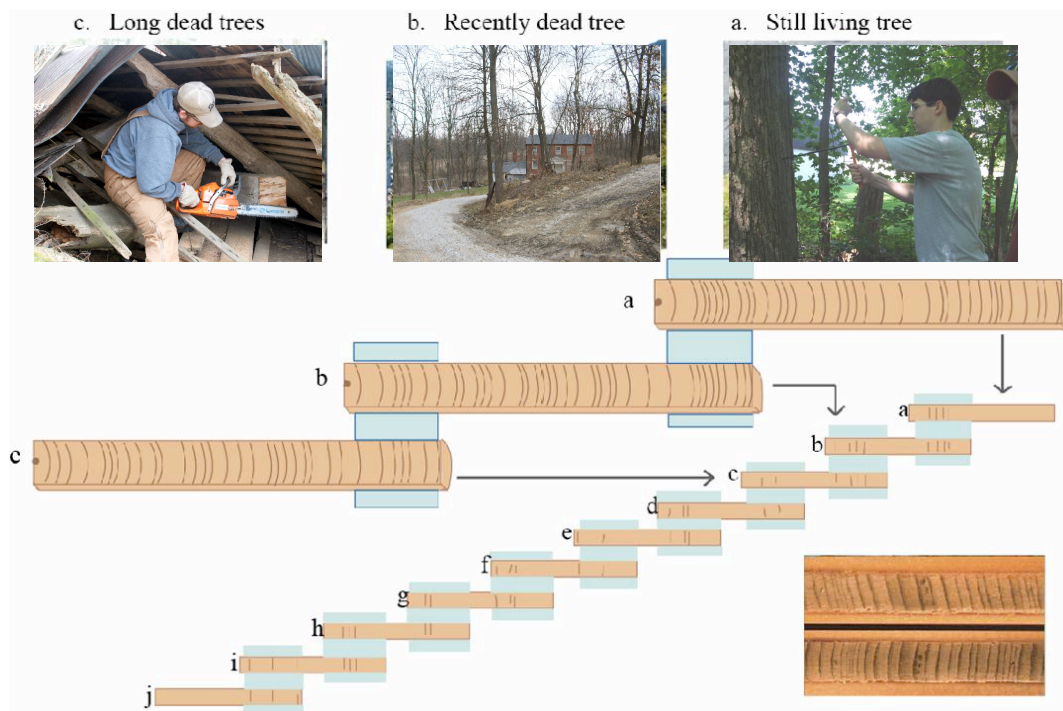
The five cores and three cross-sections from the wood pile on the side lawn (Table 1) were internally crossdated with one another to construct a floating ring-width series. This floating chronology was then absolutely dated against calendar-dated, living, ring-width chronologies from the region including Johnson Woods, Sigrist Woods, and Brown's Lake Bog (ITRDB, 2005; Wooster Tree Ring Lab, unpublished data, 2005). The floating ring-width chronology from the Barnet-Hoover Farmhouse site spans 205 years and when adjusted to calendar dates ranges from AD 1634-1839.

Table 1 summarizes the calendar dates of each sample and lists the presence of an outer ring in the samples. Outer rings provide a calendar date for when the tree was cut. Although samples include the sapwood, not all of the samples in the house or the beams in the right front lawn indicate the last year of growth, as they do not have an outer ring. The earliest cut date of the house is AD 1818 and the latest cut date is AD 1839. Sample WCF01 from the crawl space dates to 1839 which is much later than the rest of the house. All of the plugged core holes were labeled in the house so that samples can be keyed directly to the beams for further interpretation.

All cores and data are archived at the Wooster Tree Ring lab, which is housed in Scovel Hall in the Department of Geology at The College of Wooster. We would be happy to discuss the results with you.

**Table 1:** List of tree-rings from the Barnet-Hoover Farmhouse. Samples providing an outer ring are underlined.

	Sample	First Year	Last Year	Range	Presence of Outer ring	Area sample was taken from
1	<u>WCF01</u>	1705	1831	127	*	Crawl space
2	<u>WCF03</u>	1717	1839	123	*	Front room
3	<u>WCF05</u>	1682	1819	138	*	Upstairs
4	<u>WCF06</u>	1734	1818	85	*	Upstairs
5	<u>WCF07</u>	1708	1818	111	*	Upstairs
6	<u>WCRL01</u>	1668	1818	151	*	Beam pile
7	<u>WCRL1B</u>	1668	1818	151	*	Beam pile
8	WCRL2A	1688	1808	121		Beam pile
9	<u>WCRL2B</u>	1687	1818	132	*	Beam pile
10	WCRL3A	1634	1816	183		Beam pile
11	WCRL3B	1634	1809	176		Beam pile



**Figure 1:** Principles of Crossdating (Anne Krawiec, 2005). Crossdating matches overlapping ring-width patterns.

#### References:

- Holmes, R.L. 1983. Computer-assisted quality control in tree-ring dating and measurement. *Tree-Ring Bulletin*, **43** (1), 69-78.
- Stokes, M. A., and Smiley, T. L., 1968: *An Introduction to Tree-Ring Dating*. Chicago: University of Chicago Press. 73 pp.
- International Tree-Ring Data Base (ITRDB), 2005, [www.ncdc.noaa.gov/paleo/paleo.html](http://www.ncdc.noaa.gov/paleo/paleo.html).