

## Broadbalk Major soil samplings, 0-9" (0-23cm) - comparison over time.

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1865	1881	1893 <sup>(6)</sup>	1914 <sup>(7)</sup>	Section number since 1926	1936	1944	Section number since 1950s	1966	Section number since 1968	1987	1988	1992 <sup>(10)</sup>	1993	1994	1995	1996	1997	1998	1999
8 holes <sup>(1)</sup> from selected treatment strips	-			I	X <sup>(8)</sup>	Holes 1&2 <sup>(9)</sup>	la	X	0		X	X					X		
	Hole 6 <sup>(2)</sup>	Hole 4?	Hole 1?				Holes 3&4	lb	X	1	X		X						X
Positions unknown	Hole 5		<b>Top of field</b> (West end)	II	X	Holes 1&2	II	X	2		X					X			
	-	Hole 3?	Hole 2?						Holes 3&4	3			X					X	
Samples bulked to give one sample per strip	Hole 4 <sup>(3)</sup>			III	X	Holes 1&2	III	X	4	X			X						X
	Hole 3 <sup>(4)</sup>								Holes 3&4	5			X				X		
	Hole 3 <sup>(4)</sup>	Hole 2?	Hole 1?	IV	X	Holes 1&2	IV	X	6			X							X
	Hole 2		<b>Bottom of field</b> (East end)						Holes 3&4	7	X		X						
	Hole 1 <sup>(5)</sup>	Hole 1?	Hole 2?	V	X	Holes 1&2	Va	X	8			X							X
	-								Holes 3&4	Vb	X	9	X		X				

Broadbalk has been sampled on many occasions over the years. However, because the method of sampling has changed and the experiment has been divided, initially into two halves, then into five sections and finally into ten sections, it is not always advisable to directly compare one sampling with another without careful thought. The table shows (where possible) how samples taken over time relate to each other. Selected plots and depths have been sampled on many other occasions; most samples still exist in the Archive.

- (1) "Holes" were taken with a 6" x 6" x 9" (or larger) metal box, except 1944 when they were taken by spade and those indicated by "X".
- (2) Hole 6 was on the top (western) edge of current Section 1
- (3) Hole 4 was in the discard between current Sections 3 & 4, just off the top edge of Section 4
- (4) Hole 3 on strips 9a, 9b, 10a, 10b, 11a were on current Section 6, others on Section 5
- (5) Hole 1 on strips 13a, 14a, 15a were at top edge of current Section 8, others were within current Section 8
- (6) The positions of the 4 holes sampled in 1893 is unknown; assumed to be numbered from the bottom (eastern) end of the field as in 1881.
- (7) Two holes taken from the "Top" of the field, two from the "Bottom"; positions unknown.
- (8) "X" = large number (10-20) of cores taken with narrow diameter auger from plots within each section; cores bulked within each plot.
- (9) Four holes taken from each of the (then) five sections; holes 1 & 2 were on current Section 0, holes 3 & 4 on current Section 1 etc
- (10) In 1992 a more systematic sampling plan was adopted. The 5 sections in continuous wheat were sampled and then in 1992 and subsequent years one of the sections in rotation were sampled.
- (11) In 2000, all sections were sampled prior to treatment changes being introduced. In subsequent years the intention was to sample systematically as before. However, in autumn 2004 it was apparent that parts of the field had been ploughed slightly deeper than 23cm as sub-soil clay was visible in random patches across the field.
- (12) In 2005 and 2006 all plots were resampled to create a new baseline, if necessary, for %N, %C, available P, K etc. The sections were then sampled systematically from 2008 onwards.

Note: In 1865, 1881, 1893, 1914 samples were also taken from the next two depths i.e. 9-18", 18-27" (23-46cm, 46-69cm). In 1893, some treatments were also sampled by further 9" (23cm) depths down to 72" (183cm) and a few to 90" (229cm). In 1944, soils were also taken from the second 9" (23-46cm) depth. In 2000, selected treatments were also sampled by 9" horizons to 36" (91cm).

2000 <sup>(11)</sup>	2001	2002	2003	2004 <sup>(12)</sup>	2005 <sup>(12)</sup>	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
X					X					X					X		
X					X					X					X		
X	X					X					X					X	
X					X					X					X		
X			X			X		X					X				
X				X		X			X					X			
X					X					X					X		
X		X				X						X					X
X					X					X					X		
X					X					X					X		