

DFG Research Unit 1320

“Crop Sequence and the Nutrient Acquisition from the Subsoil”

Description of the Reference Soil Profile

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Position: Research Station Klein-Altendorf, University of Bonn, 50°37'8.5"N, 6°59'25.4"E, (Trial A, Plot No. 4)

Reference soil group acc. to World Reference Base for Soil Resources (WRB 2006): Haplic Luvisol (Hypereutric, Siltic); developed from loess

German Soil Classification („KA5“, AG Boden 2005): Normparabraunerde aus Löss

Horizons and major soil properties:

Depth (cm)	Horizons		Texture -----			Bulk density -----		Soil colour	Soil structure type	
	WRB	KA5	S (%)	U (%)	T (%)	WRB	KA5			g cm-3
0-27	Ap	Ap	8	77	15	SiL	Ut3	1,29	10YR3,5/4	Granular - blocky subangular
27-41	E/B	Al+Bt	5	74	20	SiL	Ut4	1,32	7,5YR4/4	blocky angular - blocky subangular
41-75	Bt1	Bt1	4	69	27	SiCL	Tu4	1,42	7,5YR4/4	blocky angular - prismatic
75-87	Bt2	Bt2 (h)	4	65	30	SiCL	Tu4	1,52	10YR5/6 + 7,5YR4/4	prismatic - blocky angular
87-115	Bt3	Bvt	5	70	25	SiL	Ut4	1,52	8,75YR4/6	blocky subangular
115-127	Bw	Btv	5	72	23	SiL	Ut4	1,46	10YR4/6	blocky subangular
127-140+	C	eIC	8	79	13	SiL	Ut3	1,47	10YR5/6	coherent

Depth (cm)	SOC	Ntot	pH		CaCO3	Fed	Feo	Feo/d	CEC
	g kg-1	g kg-1	CaCl2	H2O	g kg-1	g kg-1	g kg-1		cmolc kg-1
0-27	10,0	1,02	6,5	7,9	<1	10,10	2,57	0,25	12,01
27-41	4,6	0,55	6,9	7,8	<1	10,79	2,69	0,25	11,91
41-75	4,5	0,51	6,9	8,1	<1	14,51	2,75	0,19	15,68
75-87	3,9	0,5	6,9	7,7	<1	17,01	2,63	0,15	18,48
87-115	2,5	0,34	7,1	7,2	<1	15,27	2,19	0,14	15,49
115-127	2,6	0,34	7,3	8,2	<1	14,17	1,80	0,13	14,35
127-140+	n.d.	>0	7,4	8,3	127	11,00	0,95	0,09	n.d.