

**Supplementary material**

**Soil properties and carbon stocks in a grey Vertosol irrigated with treated sewage effluent**

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**Table S1. Summary of management history of experiment**

Season	Soil management		Crop	Number of irrigations
	Cropping system 1	Cropping system 2		
Winter 2000	Laser levelling fb. Gypsum application (2.5 t/ha). Tillage with Orthman cultivator and forming of 2-m beds. Urea applied at a rate of 60 kg N/ha	Laser levelling fb. Tillage with Orthman cultivator and forming of 2-m beds. Urea applied at a rate of 60 kg N/ha	Wheat	2
Summer 2000-01	Laser levelling fb. Bed renovation with Orthman cultivator. Wheat stubble retained as standing stubble.	Laser levelling fb. Bed renovation with Orthman cultivator. Wheat stubble retained as standing stubble.	Fallow	0
Winter 2001	-	-	Fallow	0
Summer 2001-02	Sowing cotton in to standing wheat stubble. Slashing of cotton stubble, root cutting and bed renovation with a	Sowing cotton in to standing wheat stubble. Slashing of cotton stubble, root cutting and bed renovation with a	Cotton	9

	4-row ripper and sweeps after cotton picking	4-row ripper and sweeps after cotton picking		
Winter 2002	Bed renovation with Orthman cultivator after wheat harvest, Wheat stubble retained as standing stubble	Bed renovation with Orthman cultivator after wheat harvest, Wheat stubble retained as standing stubble	Wheat	2
Summer 2002-03	-	-	Fallow	0
Winter 2003	-	-	Fallow	0
Summer 2003-04	Single pass with a combined aer-way cultivator and sweeps to a depth of ~0.15 m before sowing cotton. Fertiliser applied as water run urea at a rate of 130 kg N/ha. Slashing of cotton stubble, root cutting and bed renovation with a 4-row ripper and sweeps after cotton picking.	Cotton sown into standing wheat stubble. Fertiliser applied as water run urea at a rate of 130 kg N/ha. Slashing of cotton stubble, root cutting and bed renovation with a 4-row ripper and sweeps after cotton picking.	Cotton	4

Winter 2004	Bed renovation with Orthman cultivator after wheat harvest, Wheat stubble retained as standing stubble	Bed renovation with Orthman cultivator after wheat harvest, Wheat stubble retained as standing stubble	Wheat	2
Summer 2004-05	-	-	Fallow	0
Winter 2005	-	-	Fallow	0
Summer 2005-06	Single pass with a combined aer-way cultivator and sweeps before sowing cotton. Fertiliser applied as water run urea at a rate of 130 kg N/ha. Slashing of cotton stubble, root cutting and bed renovation with a 4-row ripper and sweeps after cotton picking.	Cotton sown into standing wheat stubble. Fertiliser applied as water run urea at a rate of 130 kg N/ha. Slashing of cotton stubble, root cutting and bed renovation with a 4-row ripper and sweeps after cotton picking.	Cotton	6
Winter 2006	Bed renovation with Orthman cultivator after wheat harvest, Wheat stubble retained as standing stubble	Bed renovation with Orthman cultivator after wheat harvest, Wheat stubble retained as standing stubble	Wheat	2
Summer 2006-07	-	-	Fallow	0

Winter 2007	-	-	Fallow	0
Summer 2007-08	Single pass with a combined aer-way cultivator and sweeps before sowing cotton. Fertiliser applied as water run urea at a rate of 130 kg N/ha. Slashing of cotton stubble, root cutting and bed renovation with a 4-row ripper and sweeps after cotton picking.	Cotton sown into standing wheat stubble. Fertiliser applied as water run urea at a rate of 130 kg N/ha. Slashing of cotton stubble, root cutting and bed renovation with a 4-row ripper and sweeps after cotton picking.	Cotton	7
Winter 2008	Bed renovation with Orthman cultivator after wheat harvest, Wheat stubble retained as standing stubble	Bed renovation with Orthman cultivator after wheat harvest, Wheat stubble retained as standing stubble	Chickpea	2
Summer 2008-09	-	-	Fallow	0
Winter 2009	-	-	Fallow	0
Summer 2009-10	Single pass with a combined aer-way cultivator and sweeps before sowing cotton. Fertiliser applied as water run	Cotton sown into standing wheat stubble. Fertiliser applied as water run urea at a rate of 130 kg N/ha. Slashing	Cotton	1

	urea at a rate of 130 kg N/ha. Slashing of cotton stubble, root cutting and bed renovation with a 4-row ripper and sweeps after cotton picking.	of cotton stubble, root cutting and bed renovation with a 4-row ripper and sweeps after cotton picking.		
Winter 2010	Wheat crop slashed and stubble retained as standing stubble	Wheat crop slashed and stubble retained as standing stubble	Wheat. Crop was not harvested due to waterlogging and lodging	0
Summer 2010-11	Soybean sown into wheat stubble with no tillage. Bed renovation with Orthman cultivator after soybean harvest. Soybean stubble retained as standing stubble.	Soybean sown into wheat stubble with no tillage. Bed renovation with Orthman cultivator after soybean harvest. Soybean stubble retained as standing stubble.	Soybean	0
Winter 2011	-	-	Fallow	0
Summer 2011-12	Single pass with a combined aer-way cultivator and sweeps before sowing	Cotton sown into standing wheat stubble. Fertiliser applied as water run	Cotton	1

	cotton. Fertiliser applied as water run urea at a rate of 130 kg N/ha. Slashing of cotton stubble, root cutting and bed renovation with a 4-row ripper and sweeps after cotton picking.	urea at a rate of 130 kg N/ha. Slashing of cotton stubble, root cutting and bed renovation with a 4-row ripper and sweeps after cotton picking.		
Winter 2012	Bed renovation with Orthman cultivator after chickpea harvest.	Bed renovation with Orthman cultivator after chickpea harvest.	Chickpea	0
Summer 2012-13	-	-	Fallow	0
Winter 2013	-	-	Fallow	0
Summer 2013-14	Single pass with a combined aer-way cultivator and sweeps before sowing cotton. Fertiliser applied as water run urea at a rate of 130 kg N/ha. Slashing of cotton stubble, root cutting and bed renovation with a 4-row ripper and sweeps after cotton picking.	Cotton sown into standing wheat stubble. Fertiliser applied as water run urea at a rate of 130 kg N/ha. Slashing of cotton stubble, root cutting and bed renovation with a 4-row ripper and sweeps after cotton picking.	Cotton	6