

Appendix A Comparison of the simulated and measured (statistical) wheat yields

Year	Overlapping unit			Town unit	
	Measured/(kg·ha ⁻¹)	Simulated /(kg·ha ⁻¹)	Error/%	Simulated /(kg·ha ⁻¹)	Error/%
1990	6285	7529	19.8	7530	19.8
1991	6480	7719	19.1	7719	19.1
1992	6810	7274	6.8	7311	7.4
1993	6825	7041	3.2	7044	3.2
1994	7020	6514	-7.2	6516	-7.2
1995	7335	7248	-1.2	7250	-1.2
1996	7560	7253	-4.1	7255	-4.0
1997	7755	6147	-20.7	6148	-20.7
1998	7770	7013	-9.7	7016	-9.7
1999	7800	7755	-0.6	7857	0.7
2000	7770	6863	-11.7	6814	-12.3
2001	7635	7495	-1.8	7529	-1.4
2002	7020	7271	3.6	7302	4.0
2003	7590	7516	-1.0	7527	-0.8
2004	7635	7611	-0.3	7614	-0.3
2005	7545	7587	0.6	7592	0.6
2006	7740	7448	-3.8	7548	-2.5
2007	7740	7152	-7.6	7209	-6.9
2008	7785	7628	-2.0	7645	-1.8
2009	-	7542		7590	
2010	7771	6741	-13.3	6776	-12.8
2011	8205	7008	-14.6	7036	-14.2

Note: The winter wheat yield in 2009 was lower due to storms, so the crop yield of 2009 was not calculated for the relative error.

Appendix B Comparison of the simulated and measured (statistical) maize yields

Year	Overlapping unit			Town unit	
	Measured/(kg·ha ⁻¹)	Simulated /(kg·ha ⁻¹)	Error/%	Simulated/(kg·ha ⁻¹)	Error/%
1990	9165	10323	12.6	10325	12.7
1991	9495	10266	8.1	10328	8.8
1992	9495	10333	8.8	10344	8.9
1993	9225	10323	11.9	10328	12.0
1994	9570	10333	8.0	10343	8.1
1995	9375	10341	10.3	10338	10.3
1996	8820	10336	17.2	10340	17.2
1997	-	10351		10358	
1998	9120	10340	13.4	10338	13.4
1999	9330	10334	10.8	10337	10.8
2000	9180	10360	12.9	10347	12.7
2001	9180	10343	12.7	10338	12.6
2002	9195	10330	12.3	10332	12.4
2003	9120	10361	13.6	10374	13.8
2004	9015	10331	14.6	10336	14.7
2005	9150	10336	13.0	10333	12.9
2006	9225	10381	12.5	10382	12.5
2007	9240	10333	11.8	10315	11.6
2008	9258	10359	11.9	10360	11.9
2009	9289	9847	6.0	9511	2.4
2010	9030	10326	14.3	10337	14.5
2011	9300	10280	10.5	10325	11.0

Note: The maize yield in 1997 was lower due to storms, so the crop yield of 1997 was not calculated for the relative error.