

Supplement of

**A gridded dataset of consumptive water footprints, evaporation,
transpiration, and associated benchmarks related to crop production in
China during 2000-2018**

Wei Wang et al.

Correspondence to: La Zhuo (zhuola@nwafu.edu.cn lzhuo@ms.iswc.ac.cn), Pute Wu (gjzwpt@vip.sina.com).

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Supplementary Table

Table S1. Benchmarks for the uWFCP at different production percentiles of 21 crops under various water supply and irrigation practices (m³ ton⁻¹)

Crop	Climate zones	Furrow irrigation			Micro irrigation			Sprinkler irrigation			Rain-fed		
		10th	20th	25th	10th	20th	25th	10th	20th	25th	10th	20th	25th
Wheat	Humid	859±92	889±96	901±98	846±94	903±87	918±87	894±104	932±112	958±120	844±108	924±121	966±120
	Arid	854±56	959±62	1002±67	731±61	770±76	789±80	984±59	1107±97	1120±100	832±140	1010±129	1042±126
Maize	Humid	747±68	804±56	826±53	664±111	716±94	746±83	738±93	782±92	803±91	676±68	718±61	737±58
	Arid	657±155	714±142	731±143	560±138	576±144	582±145	738±151	763±161	772±165	691±139	750±141	775±140
Early rice	Humid	544±36	566±35	578±34	–	–	–	558±33	581±33	589±34	–	–	–
	Arid	–	–	–	–	–	–	–	–	–	–	–	–
Mid rice	Humid	629±25	660±30	673±33	–	–	–	608±26	632±27	642±28	–	–	–
	Arid	755±50	798±63	814±66	–	–	–	728±28	758±28	781±36	–	–	–
Late rice	Humid	672±34	701±34	712±35	–	–	–	660±36	698±38	710±41	–	–	–
	Arid	–	–	–	–	–	–	–	–	–	–	–	–
Sorghum	Humid	1061±149	1147±176	1181±190	1076±200	1144±230	1178±250	1156±248	1218±281	1275±301	616±117	653±129	690±153
	Arid	1022±187	1121±177	1183±166	743±201	802±236	826±252	1180±207	1317±257	1408±250	704±184	772±234	802±240
Millet	Humid	1166±337	1303±351	1398±316	1342±223	1436±227	1463±225	1225±316	1363±380	1418±414	1284±377	1472±307	1515±293
	Arid	1446±516	1712±502	1767±478	1521±523	1635±570	1674±580	1501±540	1770±593	1847±594	1557±371	1650±394	1705±396
Barley	Humid	622±94	661±96	687±87	480±55	524±61	550±67	632±110	703±105	736±92	490±66	576±80	615±78
	Arid	504±34	579±82	601±93	544±102	579±106	591±106	563±101	625±125	649±144	444±55	498±87	568±166
Soybean	Humid	1855±98	2032±74	2098±84	1890±197	2000±200	2068±170	1834±255	2008±251	2103±220	1868±154	2056±172	2105±188
	Arid	2214±162	2362±174	2420±181	2101±277	2186±287	2218±290	2239±357	2420±277	2496±243	2431±343	2696±335	2802±329
Potatoes	Humid	153±42	218±75	248±79	133±56	169±62	184±68	175±51	220±72	238±67	400±144	763±137	905±103
	Arid	126±17	142±24	145±24	143±41	267±275	339±335	141±26	145±25	147±26	786±166	994±231	1102±258
Sweet potatoes	Humid	858±127	944±90	981±93	831±150	921±124	949±124	845±158	957±139	986±138	952±86	1055±45	1086±39
	Arid	1061±161	1211±178	1235±185	749±203	787±217	833±245	879±137	980±134	1008±127	1156±175	1283±234	1331±248
Cotton	Humid	4663±412	5307±494	5704±506	2266±1579	3225±2113	4108±1584	5356±760	6235±586	6394±619	4457±458	4837±395	4969±369
	Arid	1704±306	1713±309	1728±308	1582±283	1588±287	1592±287	1758±316	1772±316	1788±320	1309±238	1415±253	1465±257

Crop	Climate zones	Furrow irrigation			Micro irrigation			Sprinkler irrigation			Rain-fed		
		10th	20th	25th	10th	20th	25th	10th	20th	25th	10th	20th	25th
Sugar cane	Humid	26±2	27±2	29±3	29±4	33±11	37±16	27±3	31±4	32±5	109±9	115±10	118±9
	Arid	360±172	364±173	364±173	345±165	349±165	349±165	368±177	372±177	372±177	–	–	–
Sugar beets	Humid	9±2	9±2	9±2	8±2	8±2	8±2	9±2	9±2	13±11	31±13	45±25	51±30
	Arid	11±2	11±2	11±2	10±2	10±2	10±2	11±2	11±2	11±2	22±4	29±3	31±3
Groundnuts	Humid	705±176	752±205	793±219	732±123	816±131	849±134	723±182	802±180	868±156	898±140	1048±156	1111±151
	Arid	1025±80	1054±83	1061±84	957±71	1001±80	1061±136	1070±96	1090±95	1097±97	2084±623	2400±669	2514±679
Rapeseed	Humid	1079±211	1079±211	1079±211	989±241	989±241	989±241	1111±196	1111±196	1111±196	77±20	101±35	122±50
	Arid	–	–	–	–	–	–	–	–	–	89±21	128±35	168±43
Sunflower	Humid	1438±289	1698±342	1820±348	1134±358	1388±501	1532±595	1280±454	1676±355	1746±376	732±219	818±291	888±322
	Arid	943±202	991±224	1017±229	968±188	999±190	1026±171	993±242	1044±268	1062±273	940±167	1059±180	1122±163
Tomatoes	Humid	56±12	60±13	62±13	52±13	57±12	58±13	48±12	53±13	56±14	–	–	–
	Arid	61±11	67±12	70±13	49±11	53±12	55±12	66±16	75±17	76±17	–	–	–
Apple	Humid	280±92	298±98	304±100	264±80	293±76	322±64	303±102	329±113	346±118	281±84	304±89	317±89
	Arid	364±166	529±198	576±183	424±127	439±134	443±135	369±149	527±150	563±127	394±153	426±160	444±164
Tea	Humid	3485±1387	3900±1520	4225±1533	3298±1432	3645±1597	3852±1670	3467±1326	3861±1552	4101±1653	4012±1023	4477±1071	4716±1062
	Arid	16588±9371	16892±9542	17026±9662	14006±7945	14345±8133	14459±8213	17694±9990	18040±10210	18165±10314			
Tobacco	Humid	1256±301	1455±363	1587±319	1202±201	1321±202	1424±275	1178±275	1316±298	1355±313	1836±134	1995±94	2044±98
	Arid	1218±280	1259±296	1287±307	1041±185	1101±196	1132±209	1256±307	1294±337	1326±360	1537±422	2037±531	2267±600
Cabbage	Humid	747±68	804±56	826±53	664±111	716±94	746±83	738±93	782±92	803±91	676±68	718±61	737±58
	Arid	657±155	714±142	731±143	560±138	576±144	582±145	738±151	763±161	772±165	691±139	750±141	775±140
Grapes	Humid	–	–	–	–	–	–	–	–	–	229±42	251±46	260±47
	Arid	280±58	280±58	280±58	245±58	245±58	245±58	294±60	294±60	294±60	232±46	243±50	248±52

Note: “△” refers to the rate of change from 2000 to 2018. “–” means no crops are grown.

Supplementary Figures

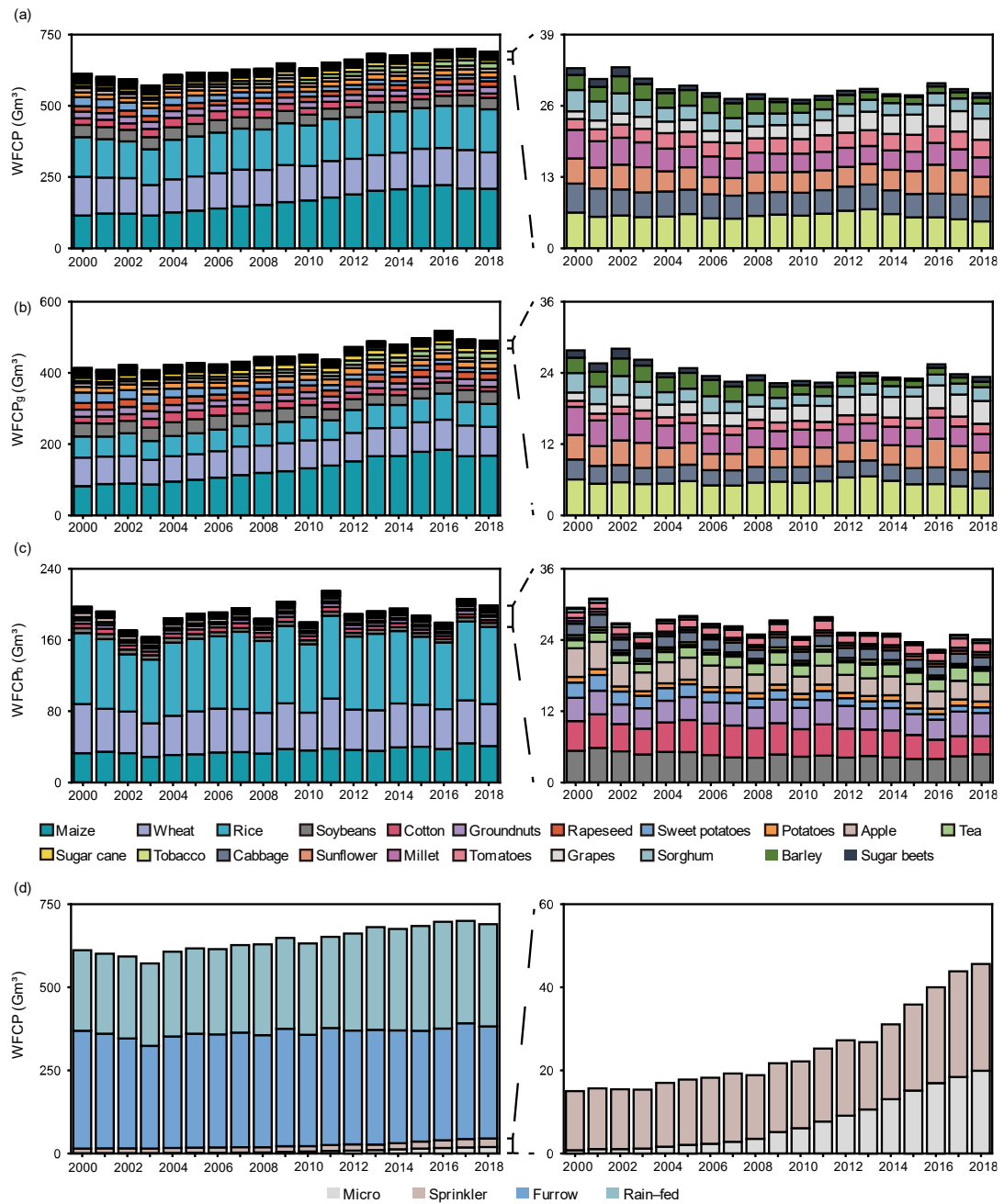


Fig. S1 The WFCP (a), WFCP_g (b), WFCP_b (c) of 21 crops, and total WFCP under different water supply and irrigation practices (d).

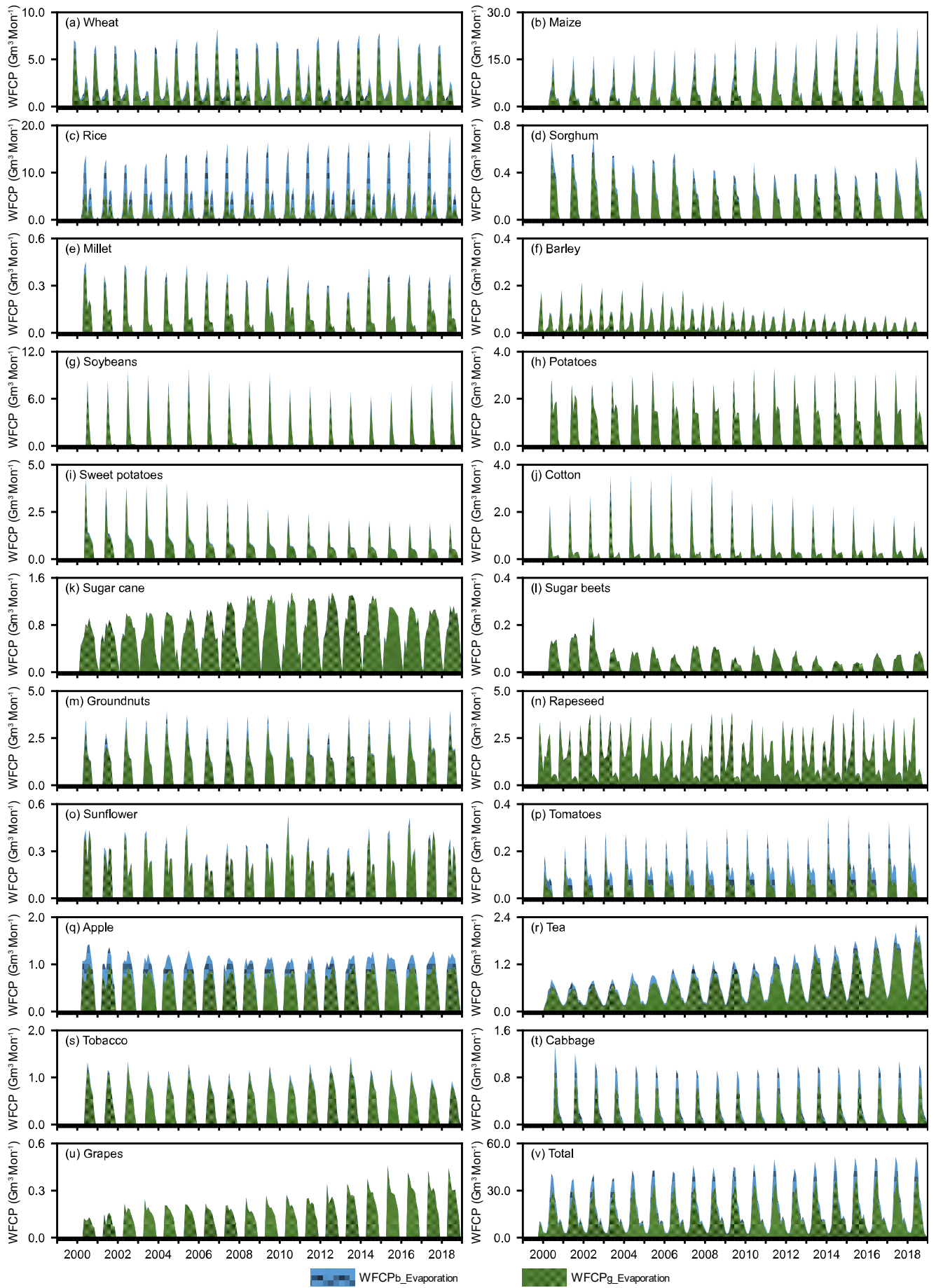


Fig. S2 Total national monthly WFCPg and WFCPb in soil evaporation (cross filling represents WFCPg, dot filling indicates WFCPb).

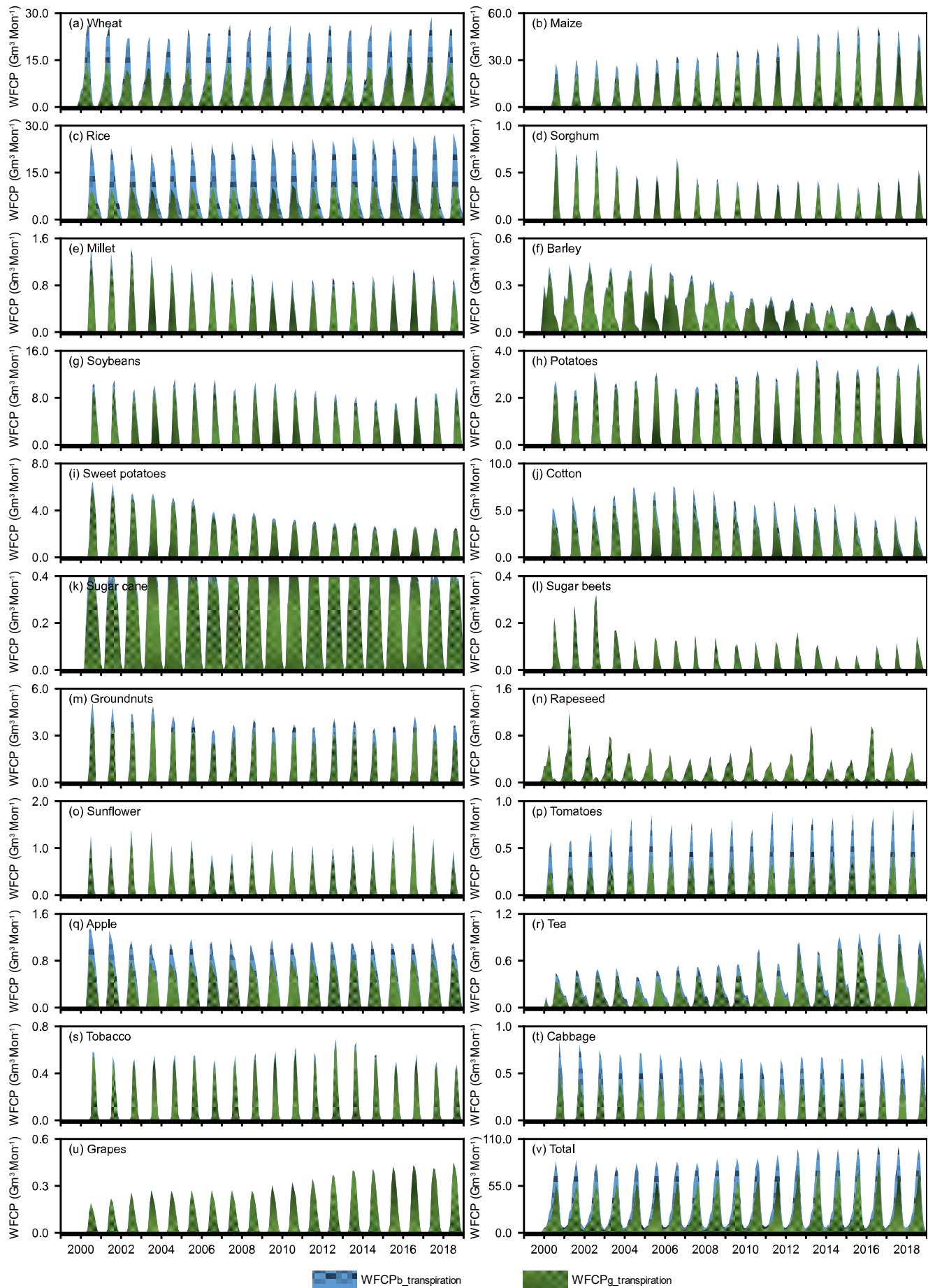


Fig. S3 Total national monthly WFCPg and WFCPb in crop transpiration (cross filling represents WFCPg, dot filling indicates WFCPb).

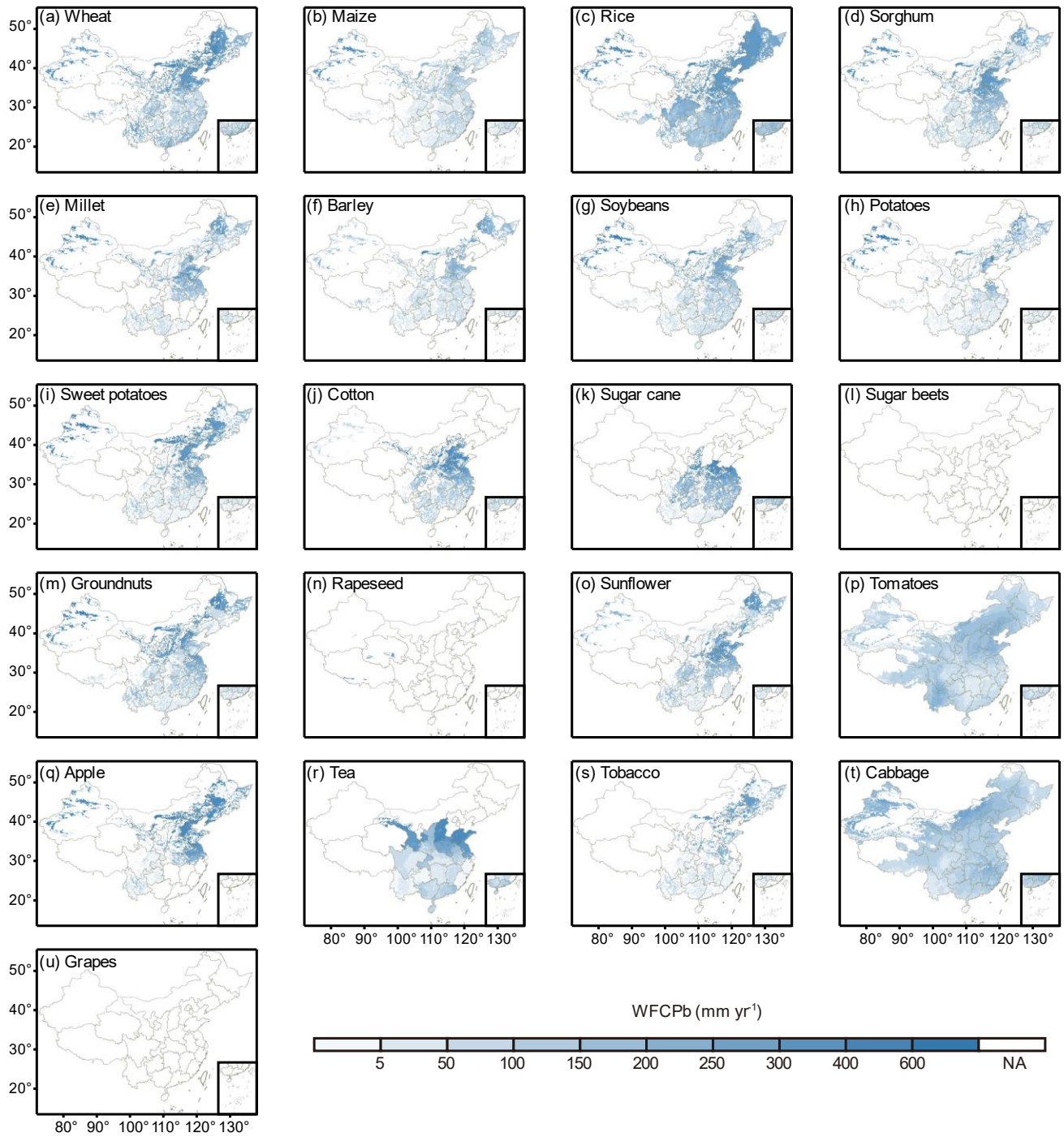


Fig. S4 Gridded WFCPb and WFCPg in 2017.

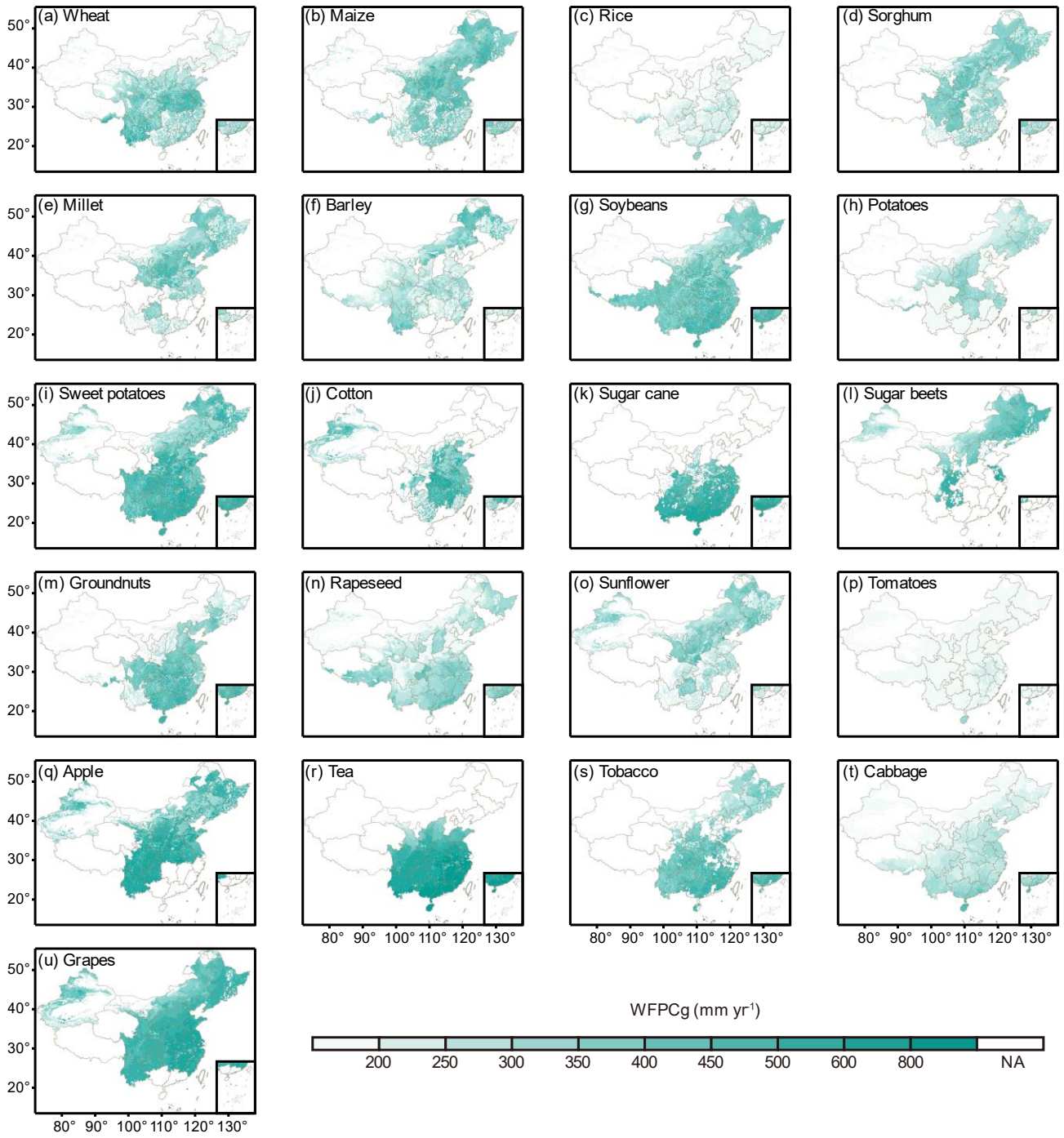


Fig. S5 Gridded WFCPg and WFCPg in 2017.

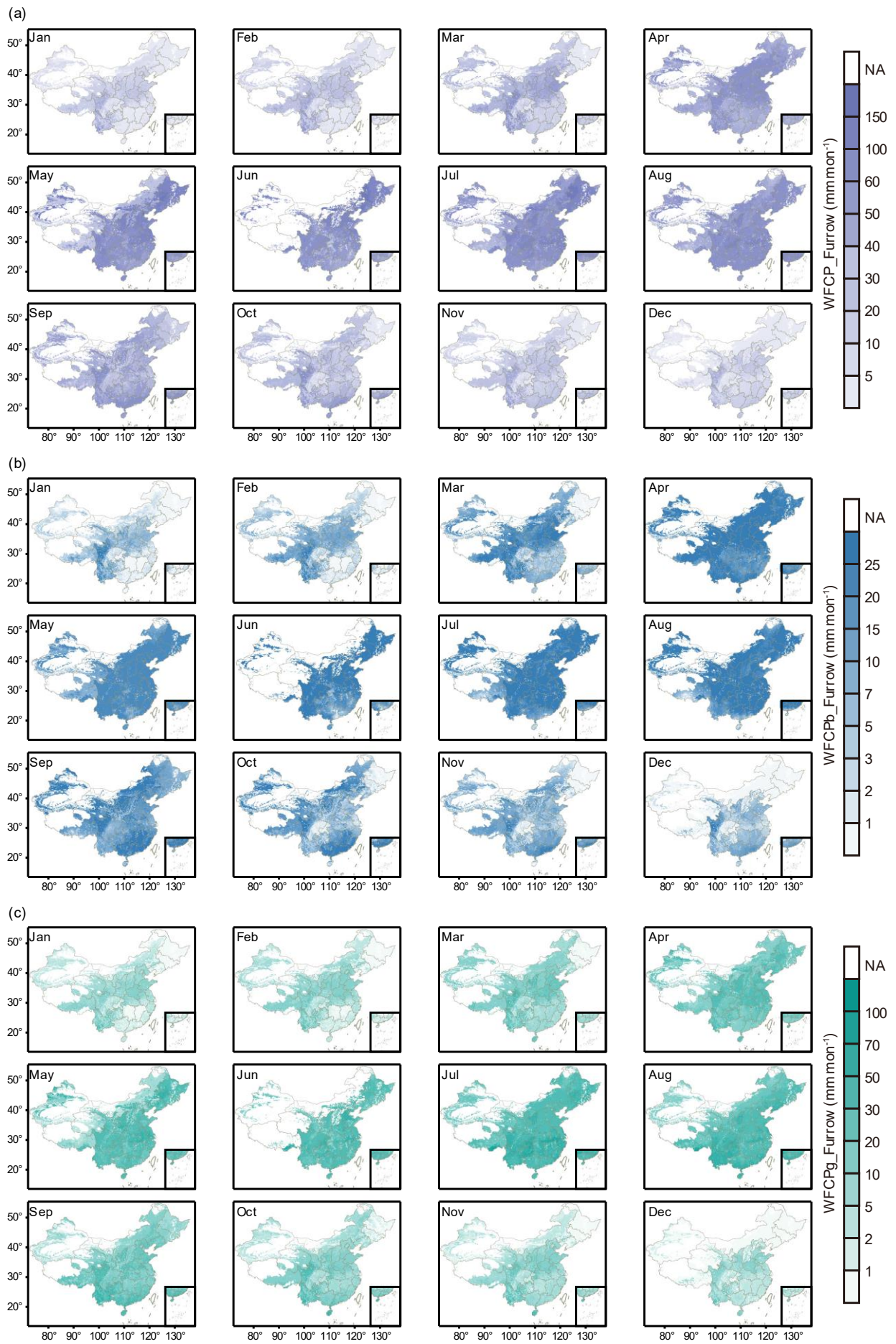


Fig. S6 Gridded monthly total WFCP (a), WFCPb (b) and WFCPg (c) of 21 crops in furrow irrigation in 2017.

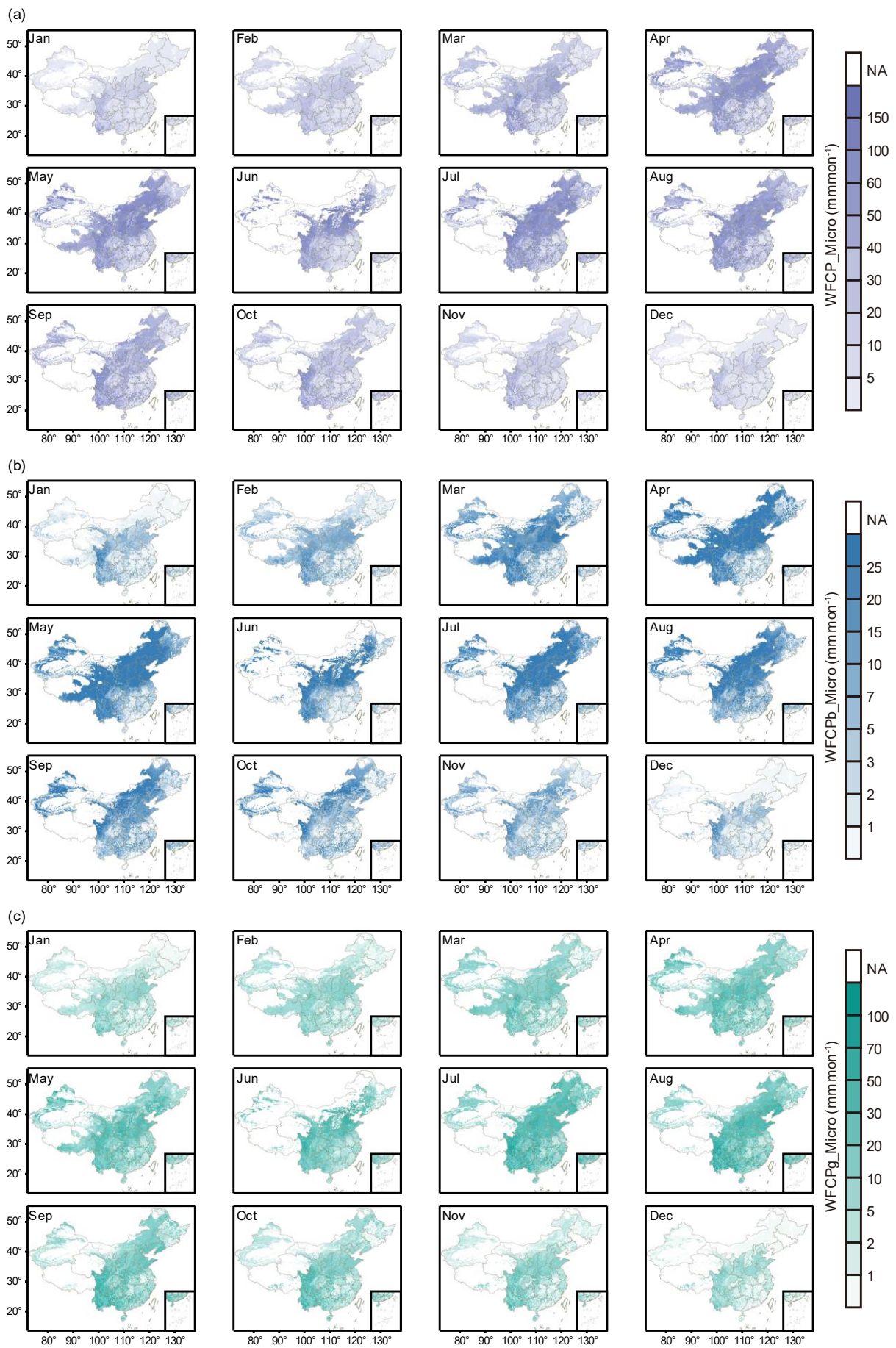


Fig. S7 Gridded monthly total WFCP (a), WFCPb (b) and WFCPg (c) of 21 crops in micro irrigation in 2017.

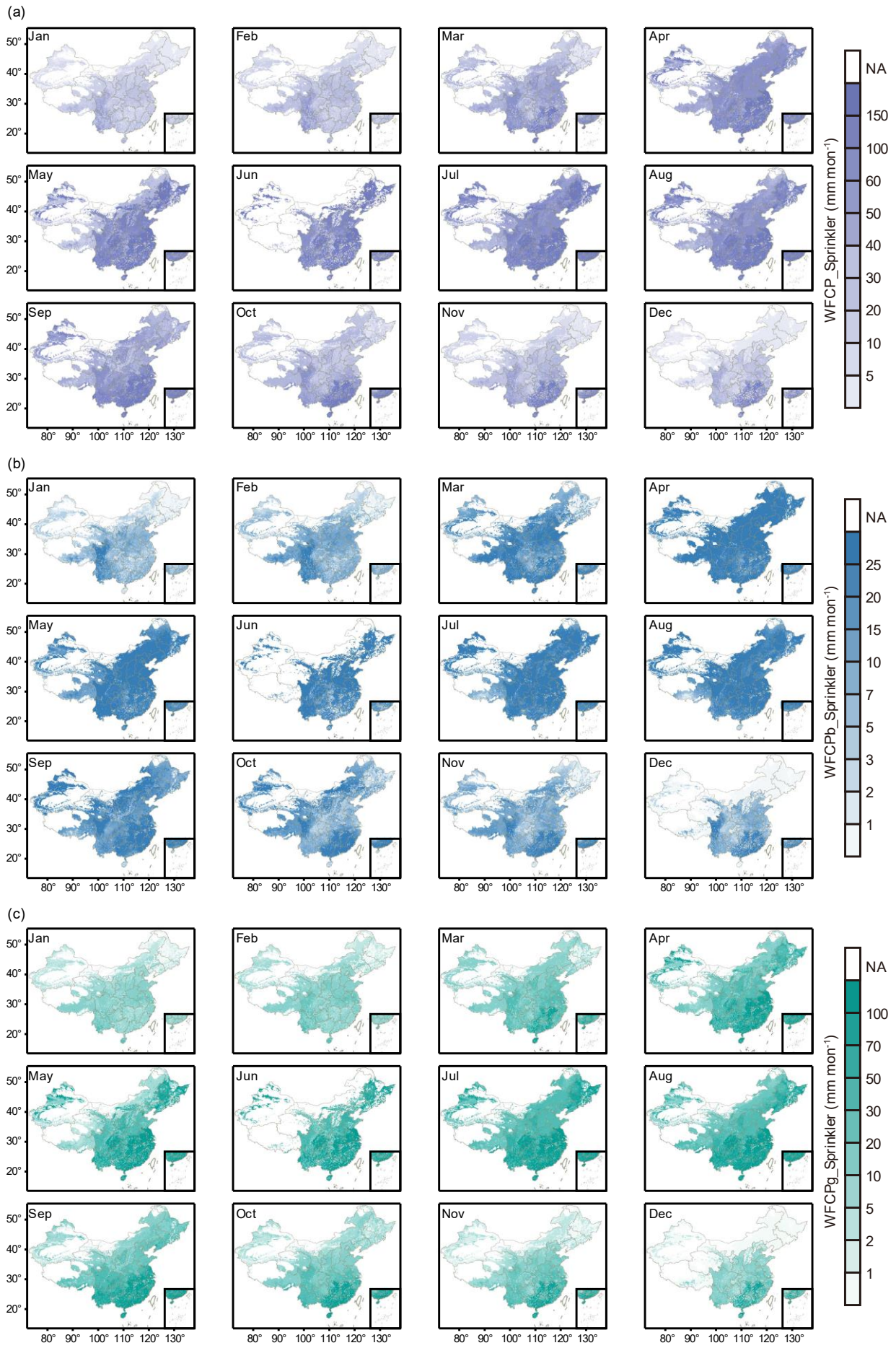


Fig. S8 Gridded monthly total WFCP (a), WFCPb (b) and WFCPg (c) of 21 crops in sprinkler irrigation in 2017.

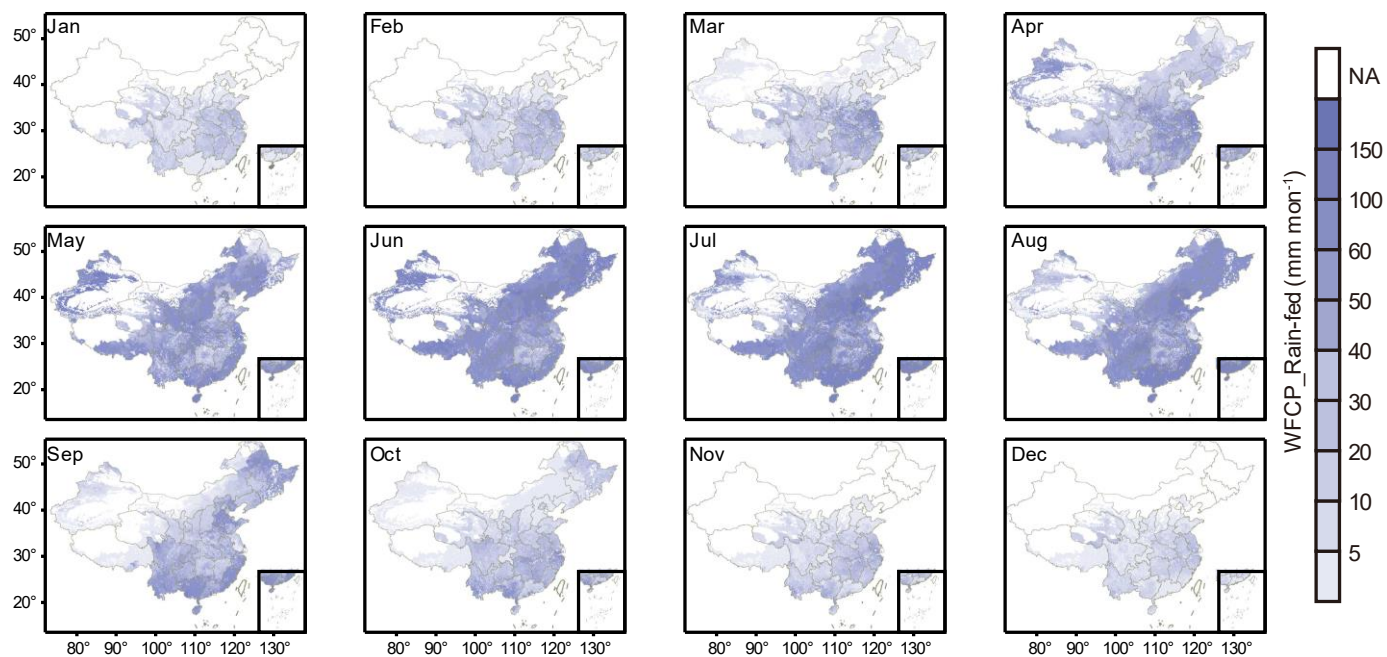


Fig. S9 Gridded monthly total WFCP in rain-fed conditions in 2017.

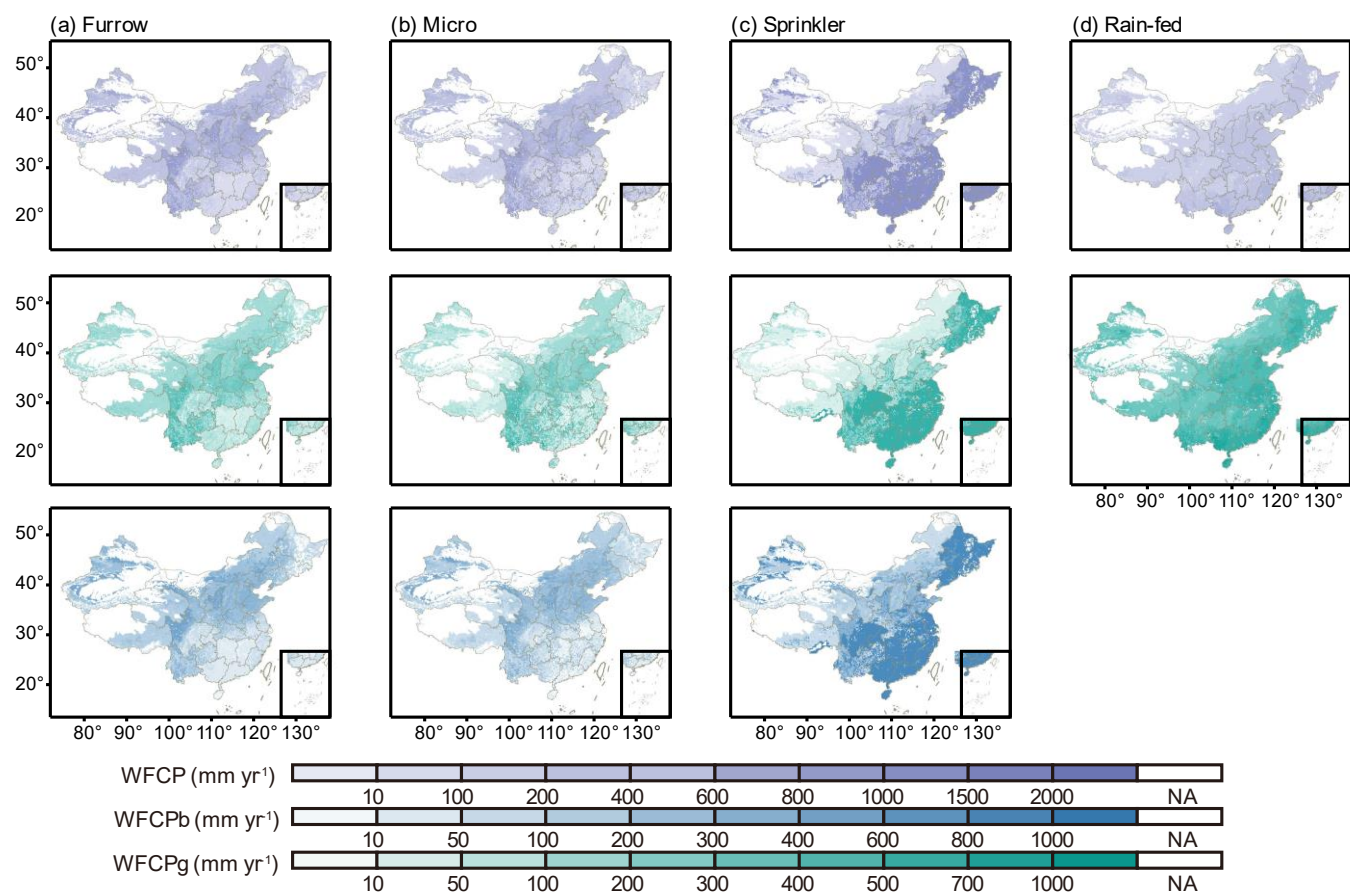


Fig. S10 Gridded monthly total WFCP, WFCPb and WFCPg in furrow irrigation (a), micro irrigation (b), sprinkler irrigation (c) and rain-fed conditions (d) in 2017.

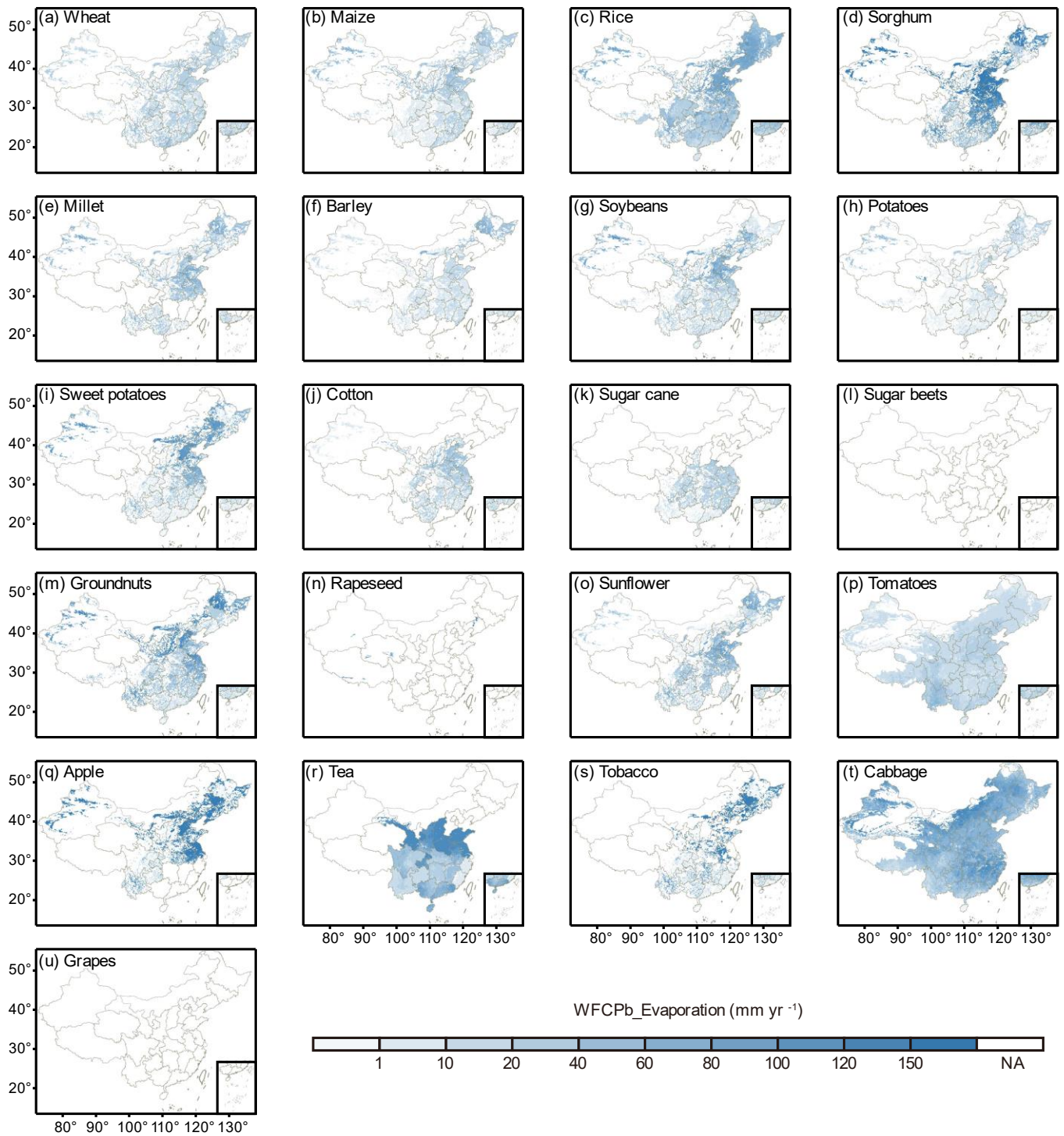


Fig. S11 Gridded WFCPb in soil evaporation in 2017.



Fig. S12 Gridded WFCPg in soil evaporation in 2017.

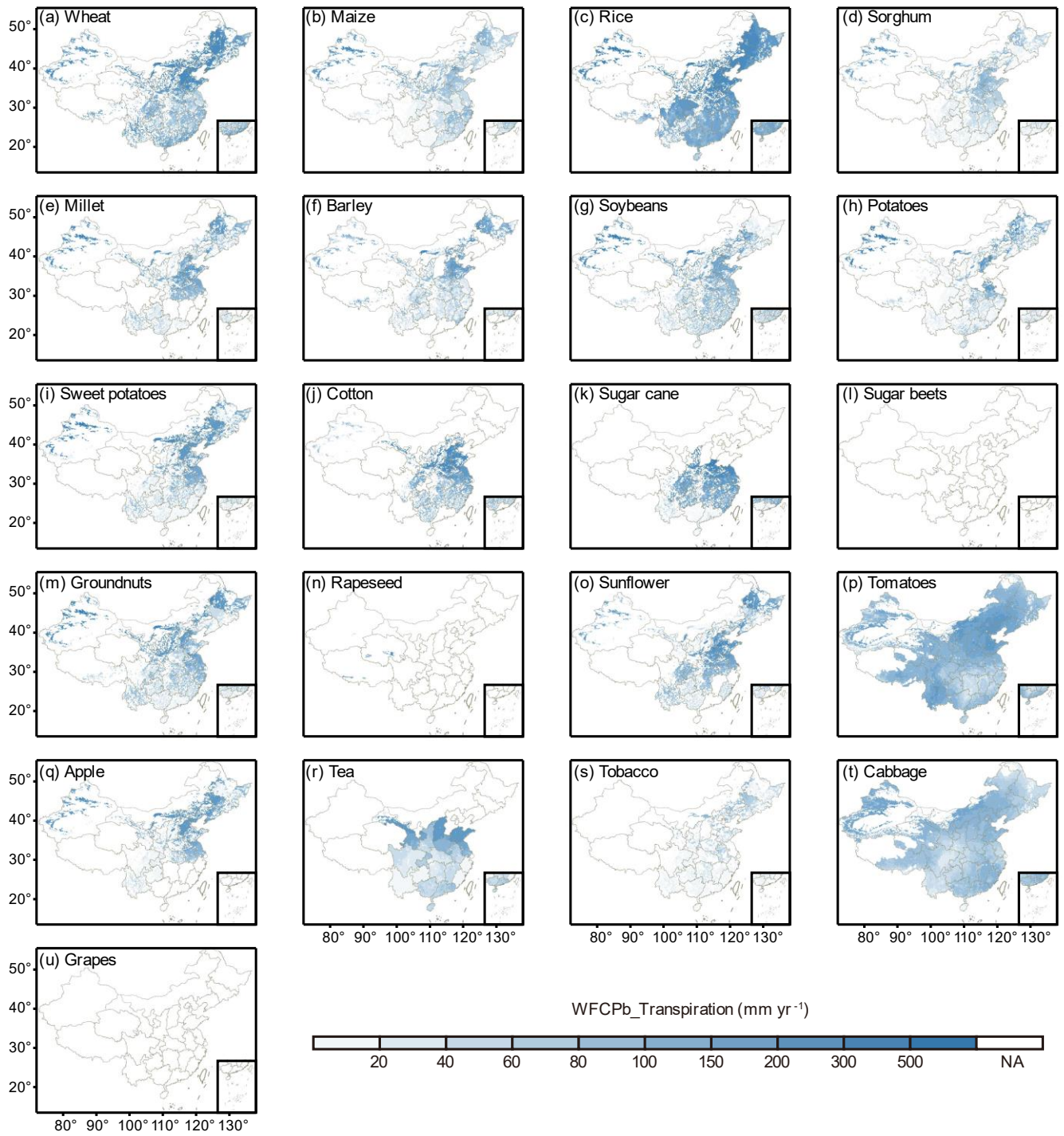
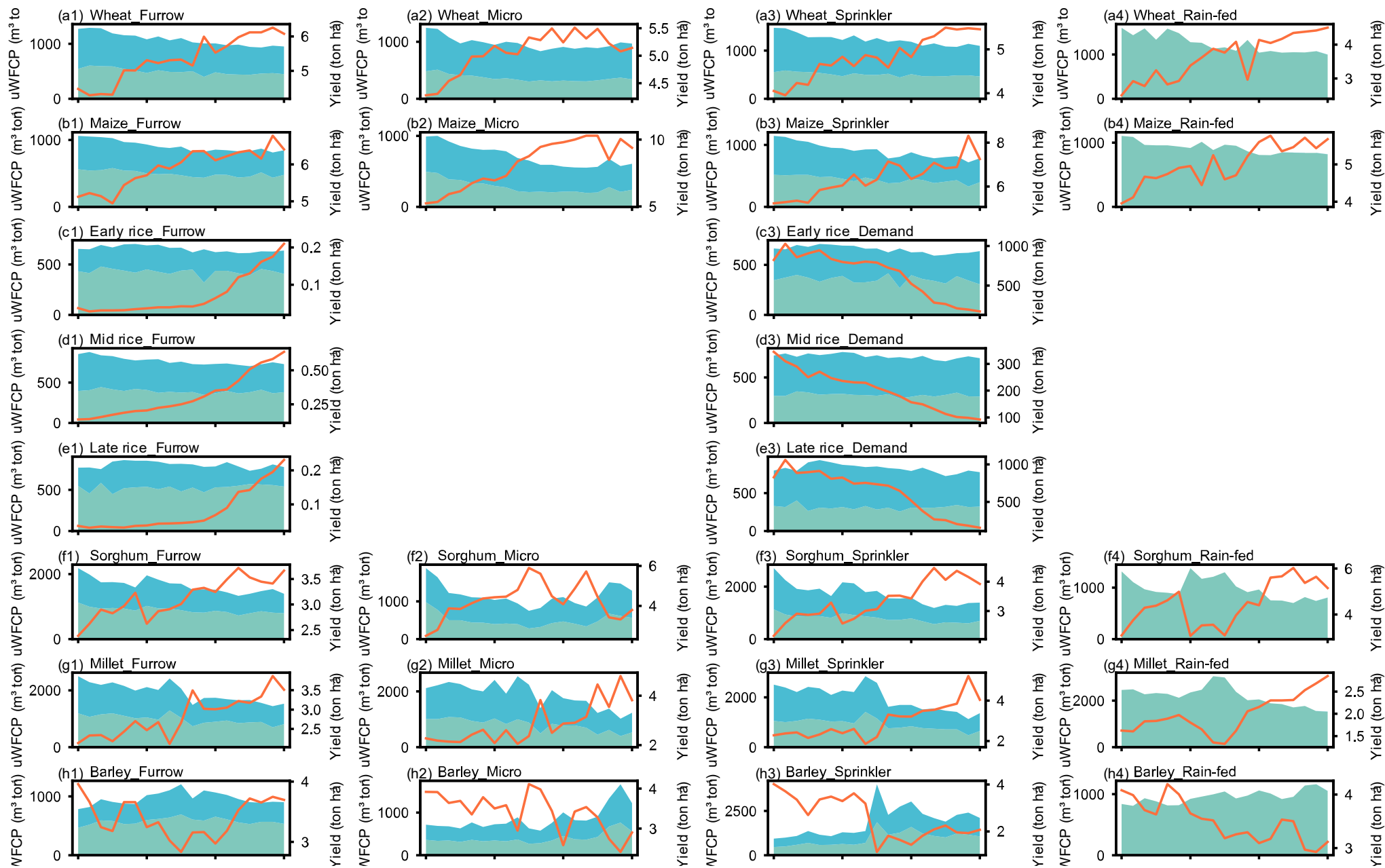
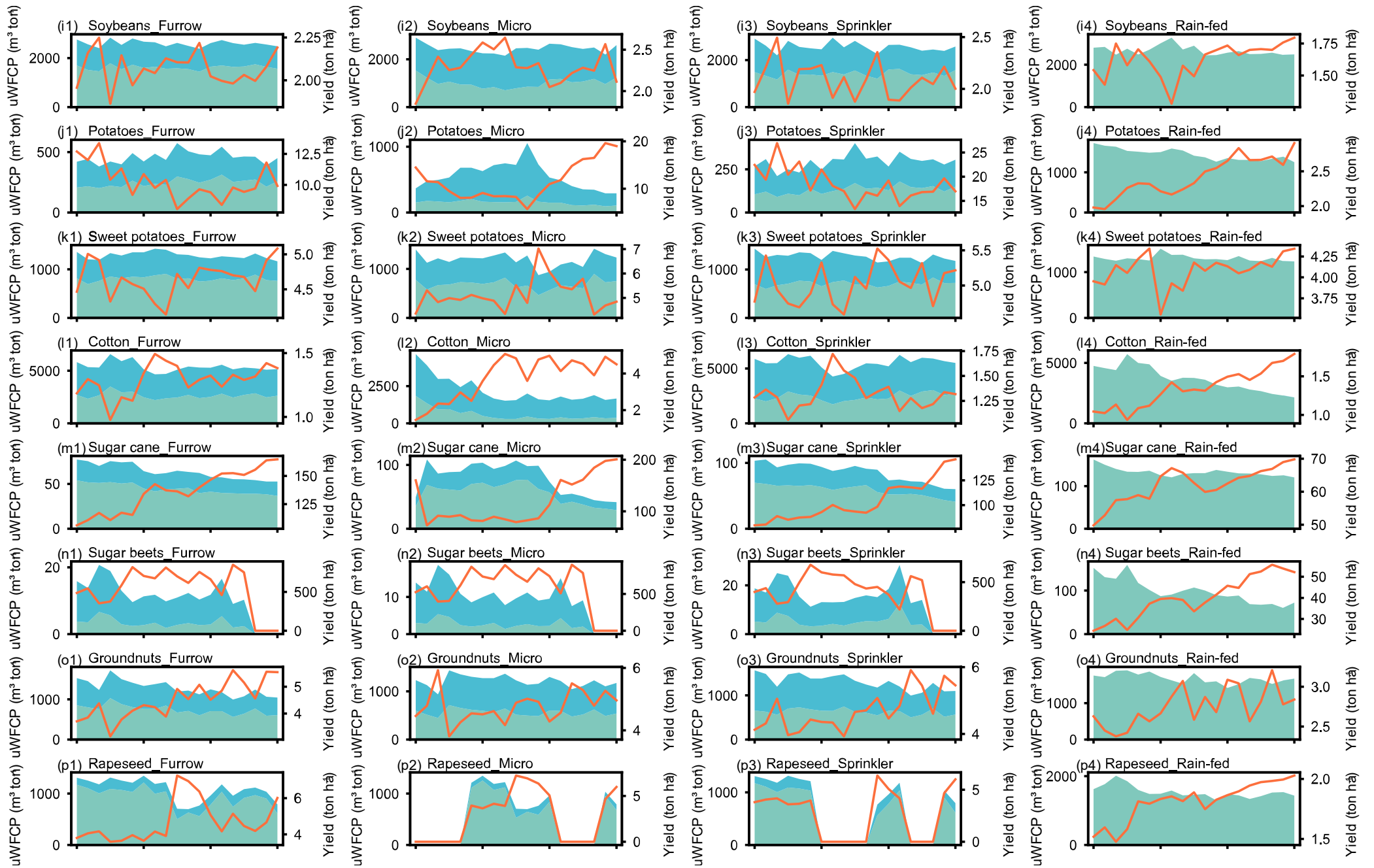


Fig. S13 Gridded WFCPb in soil crop transpiration in 2017.



Fig. S14 Gridded WFCPg in soil crop transpiration in 2017.





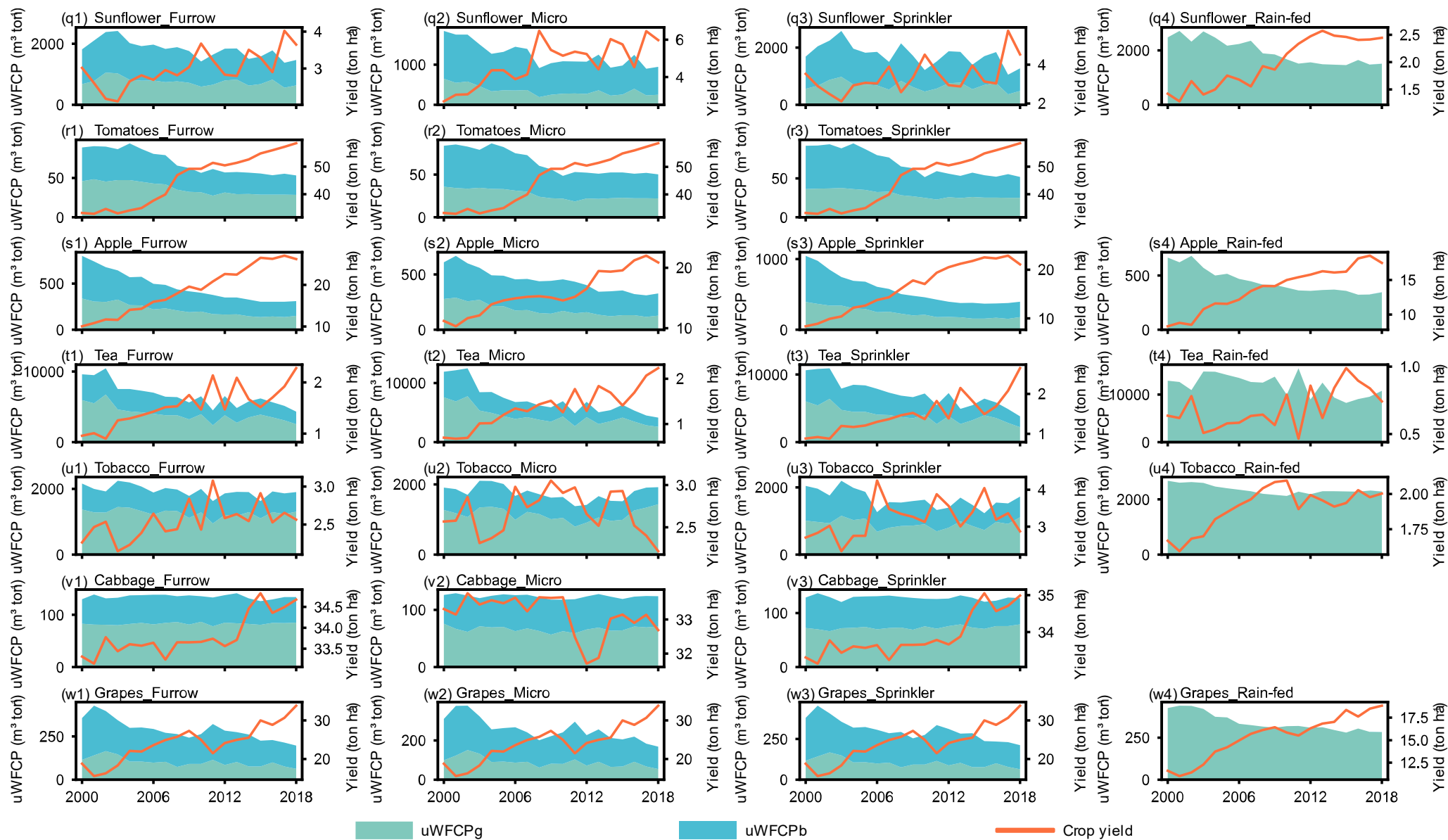


Fig. S15 Interannual variation in uWFCPb, uWFCPg and yield under different water supply and irrigation practices over 2000-2018.

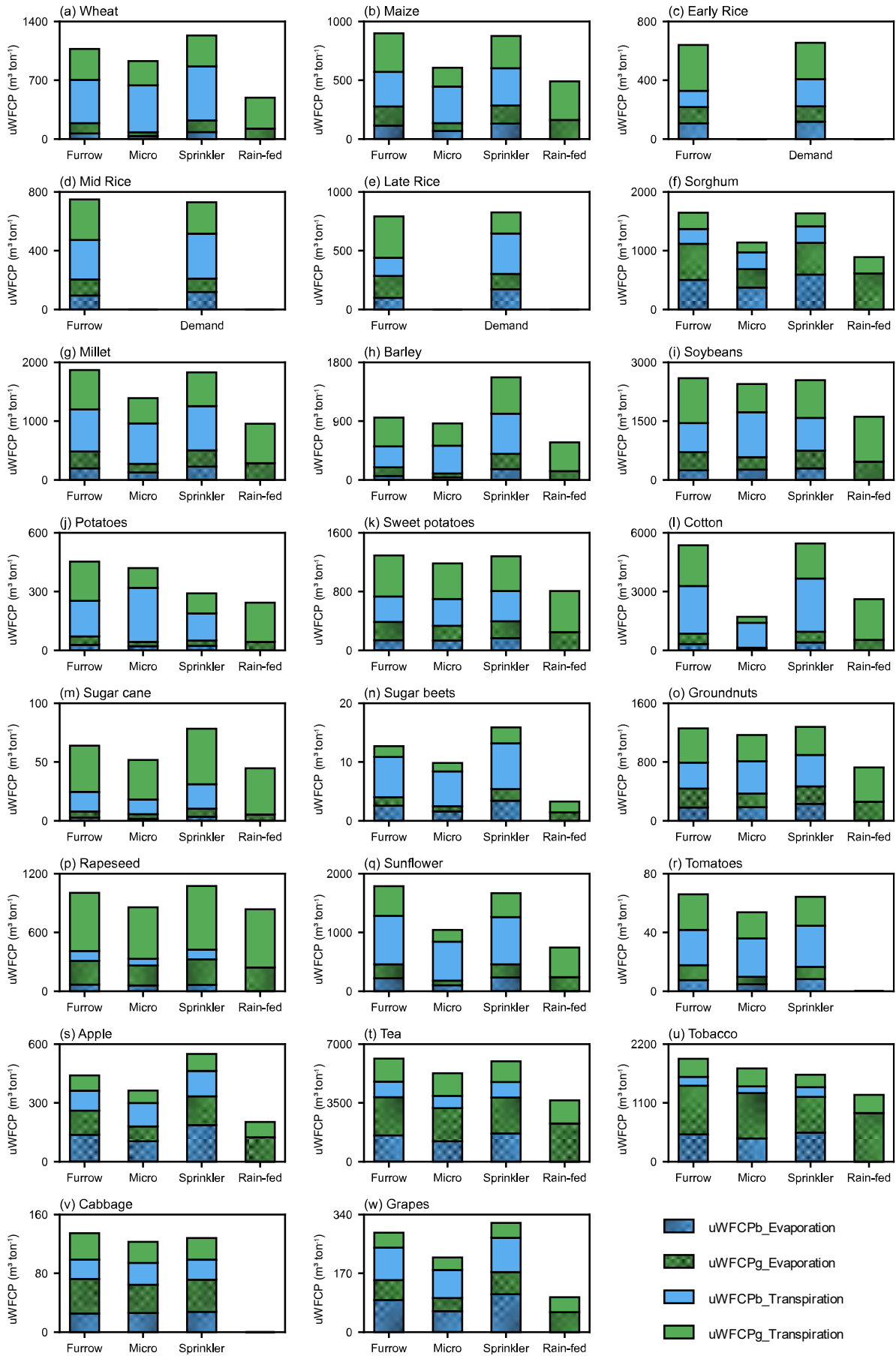


Fig. S16 Proportion of blue and green water consumption for soil evaporation and crop transpiration under different water supply and irrigation practices.

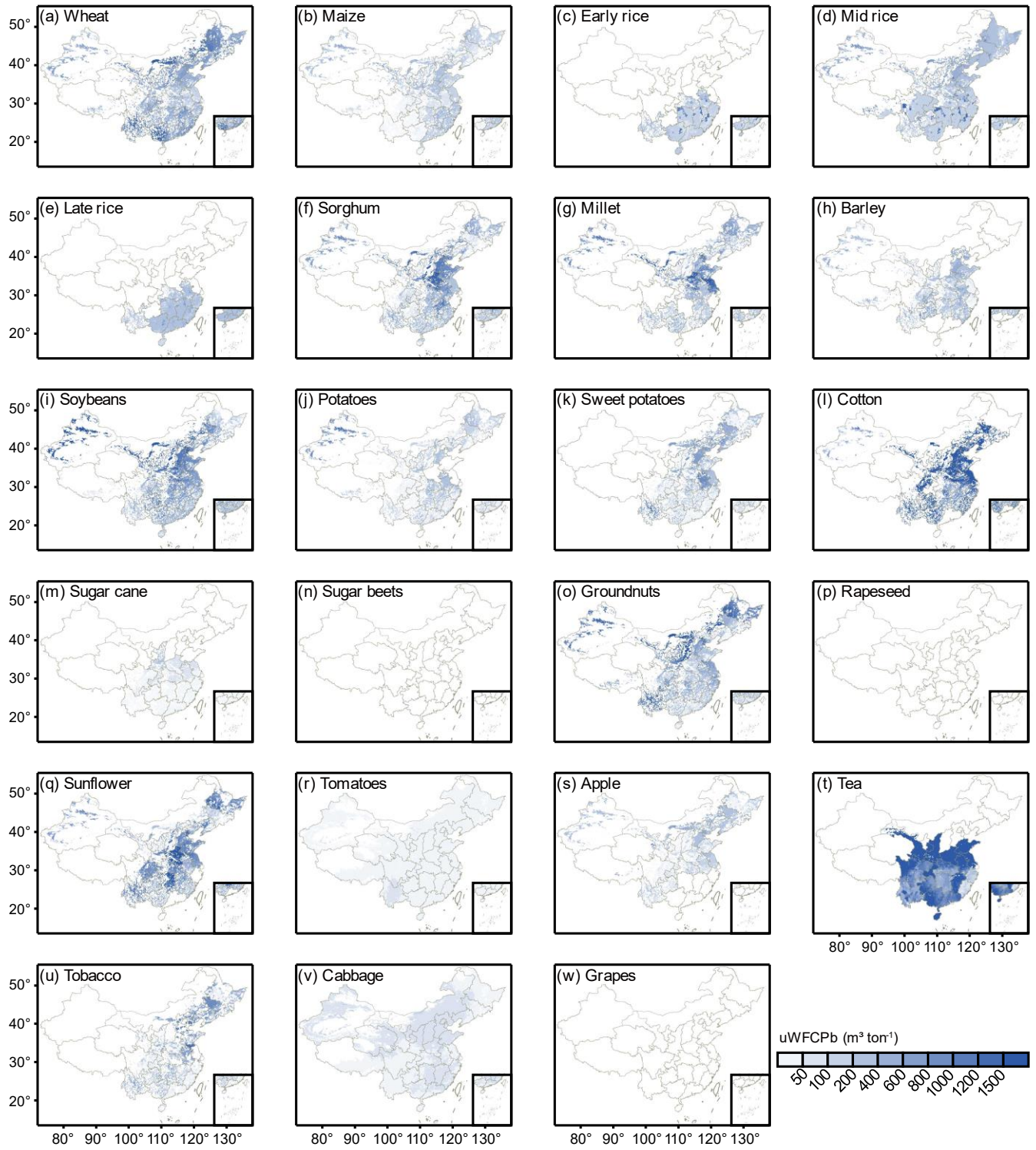


Fig. S17 Gridded uWFCPb (annual average for 2010-2018).

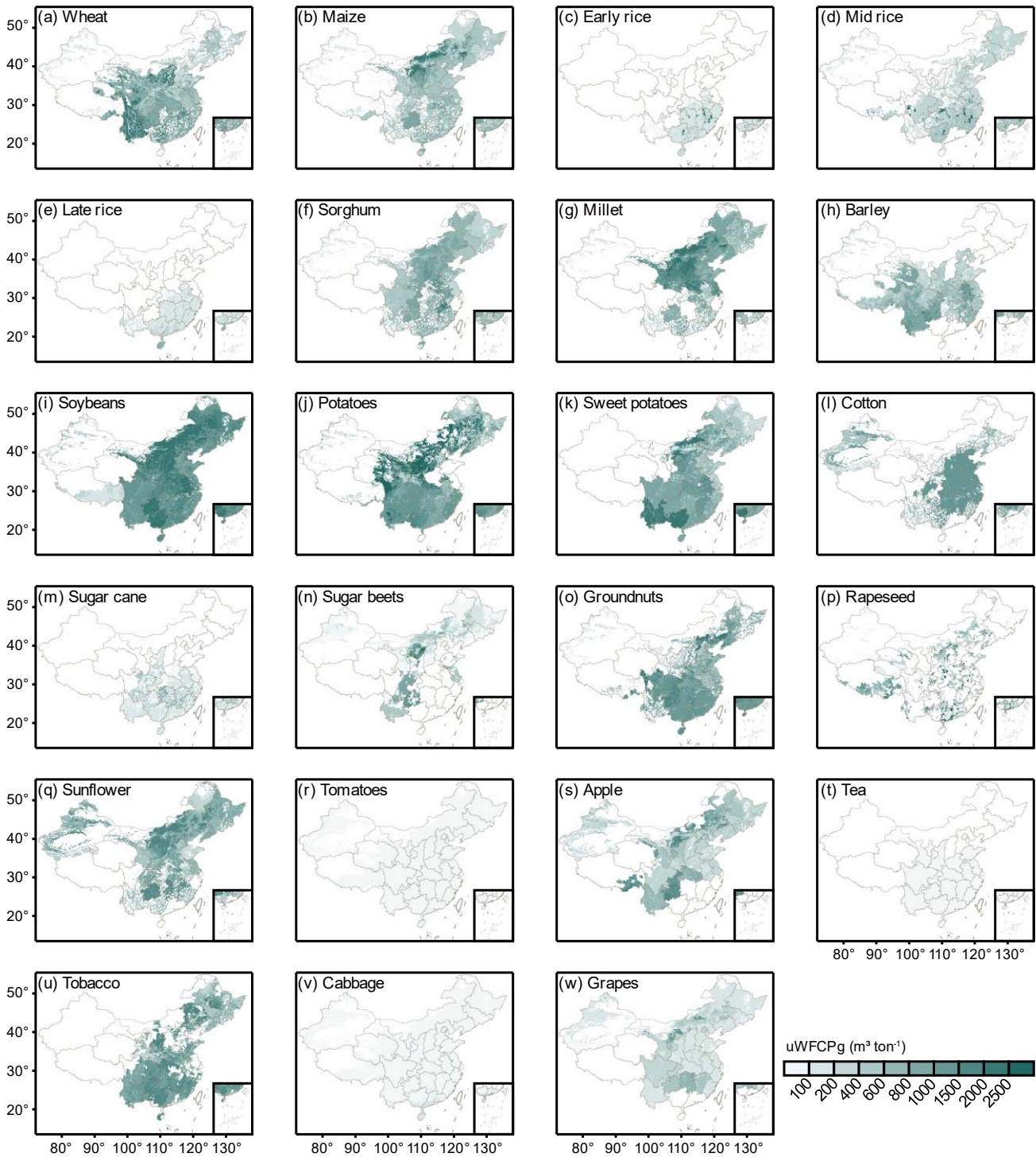


Fig. S18 Gridded uWFCPg (annual average for 2010-2018).

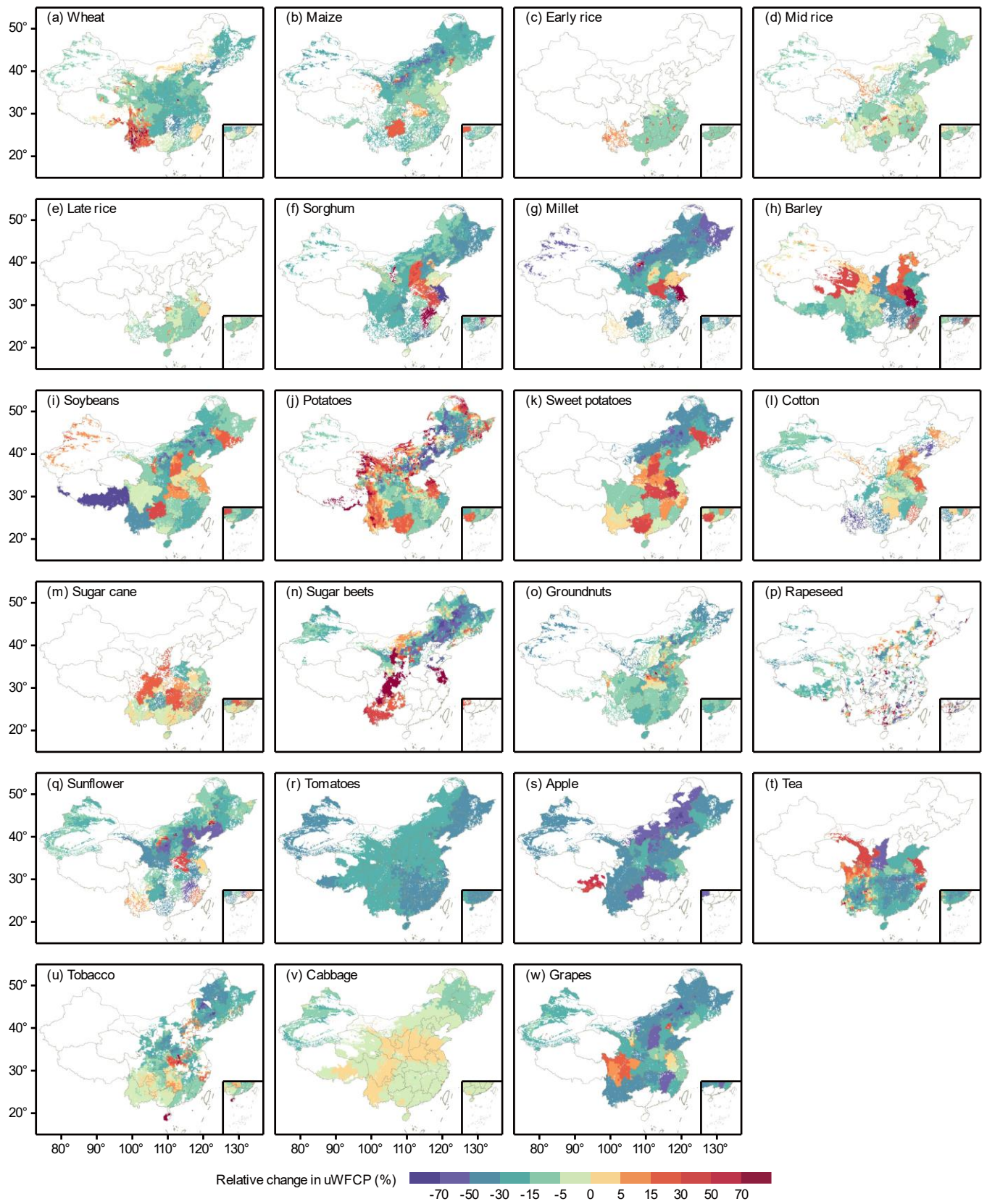


Fig. S19 Relative changes of the average gridded uWFCP for 2000-2009 to that for 2010-2018.

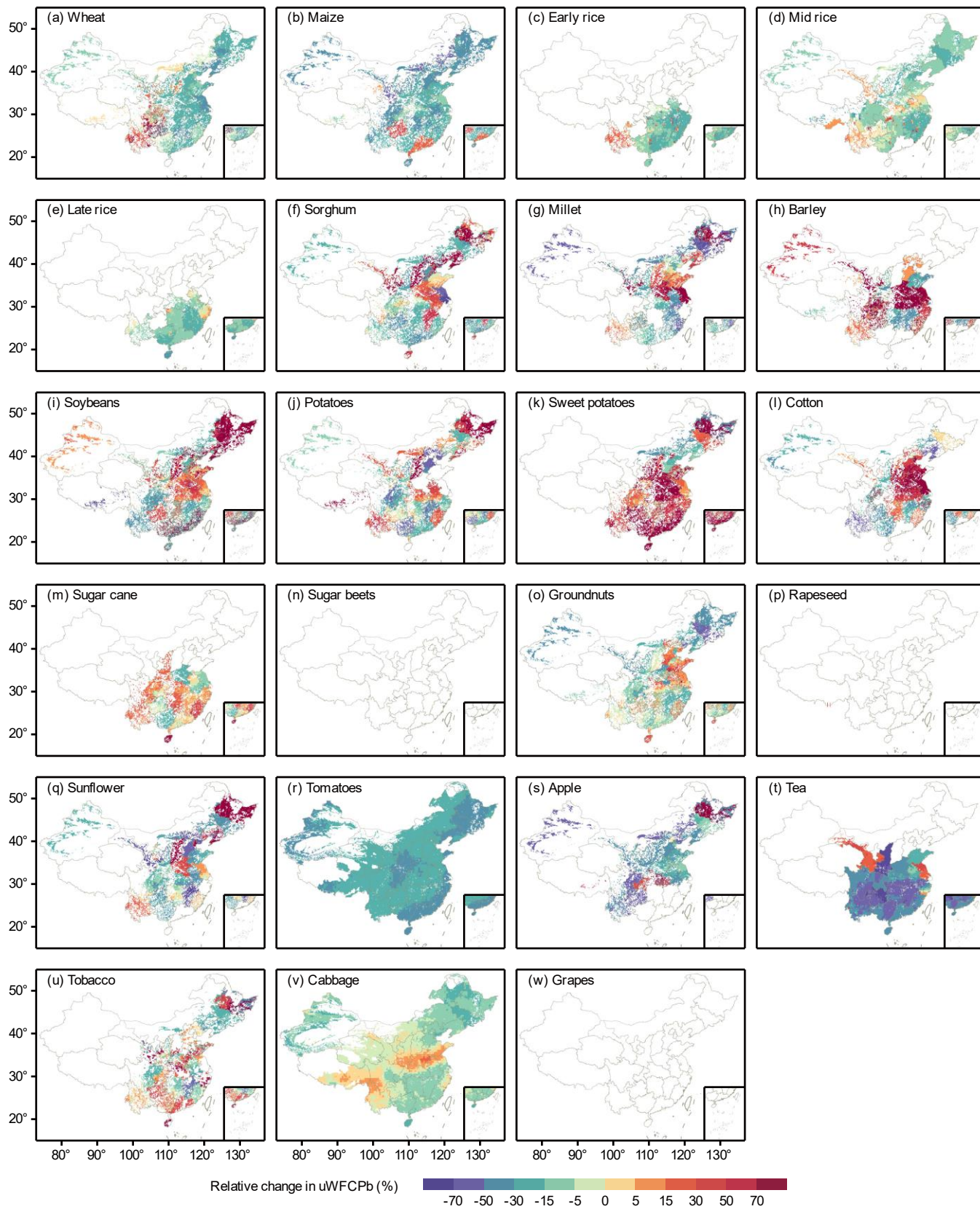


Fig. S20 Relative changes of the average gridded uWFCPb for 2000-2009 to that for 2010-2018.

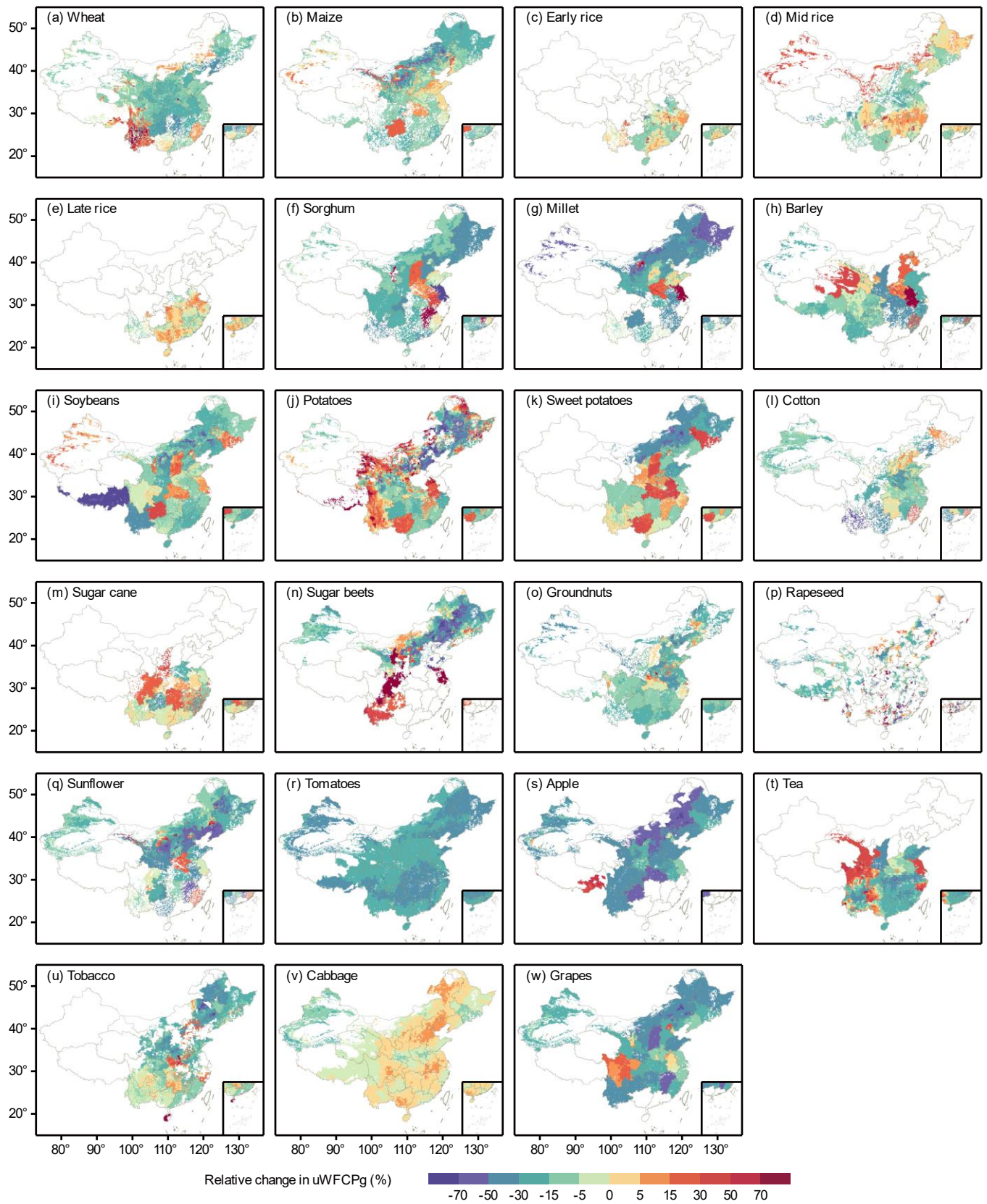
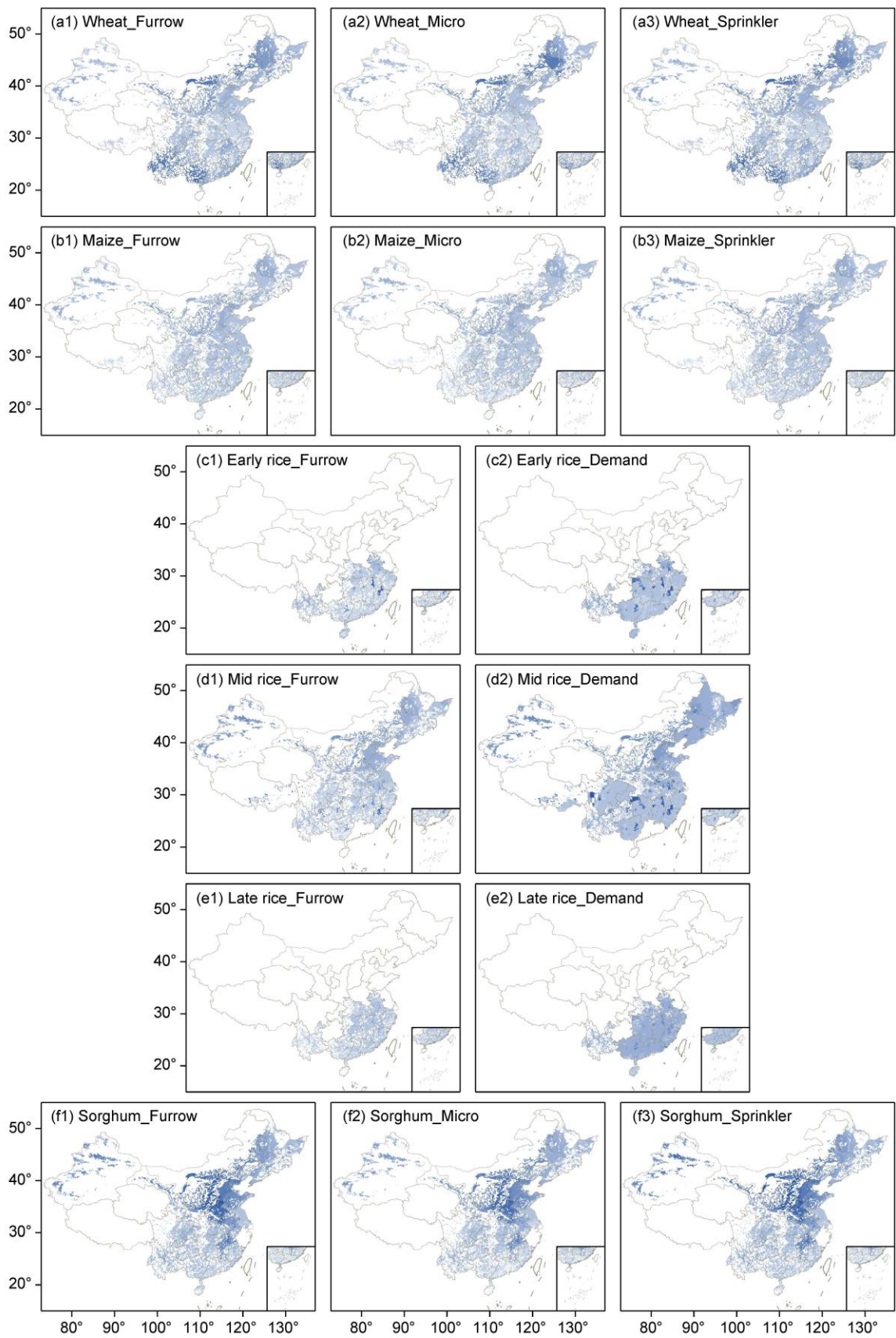
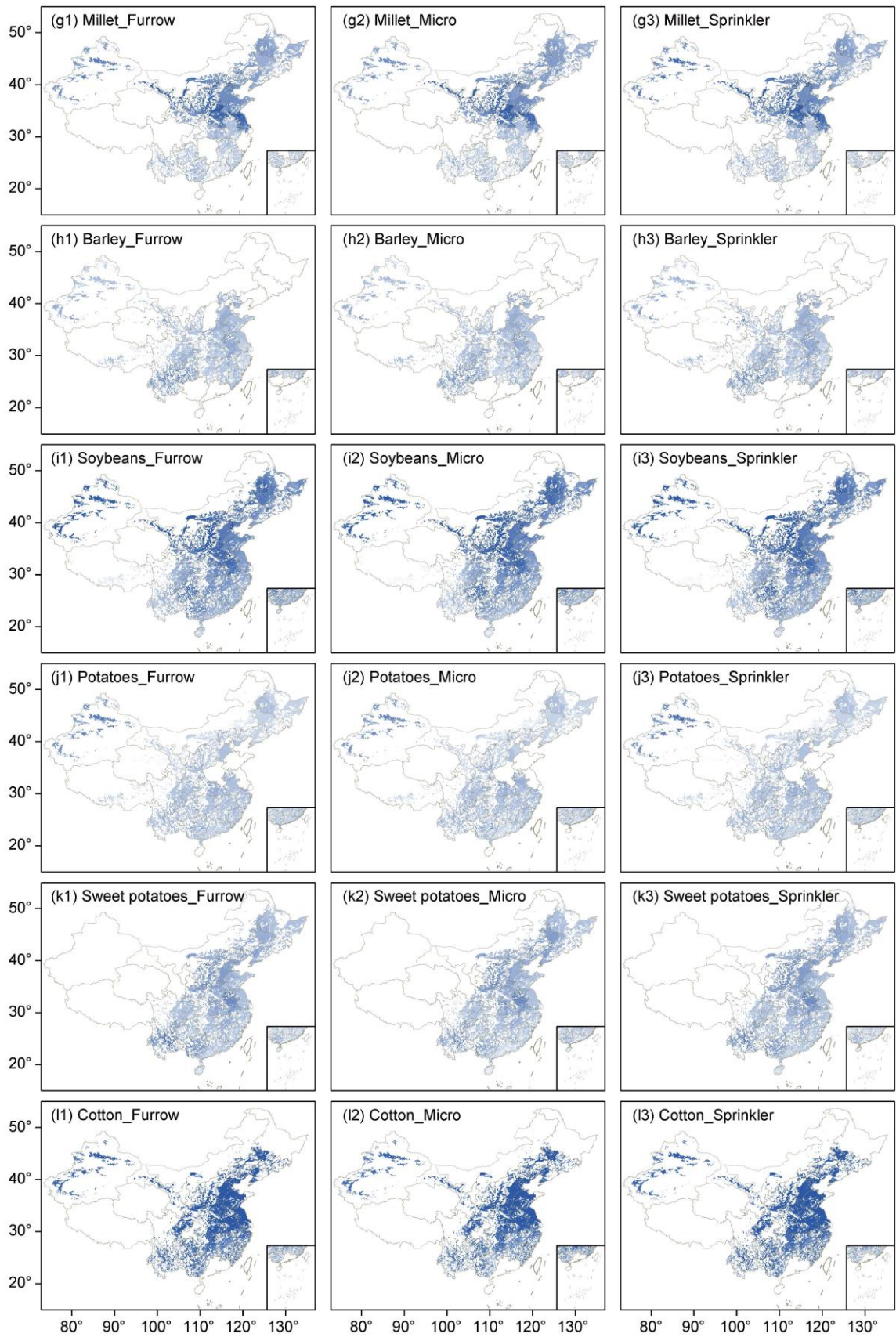
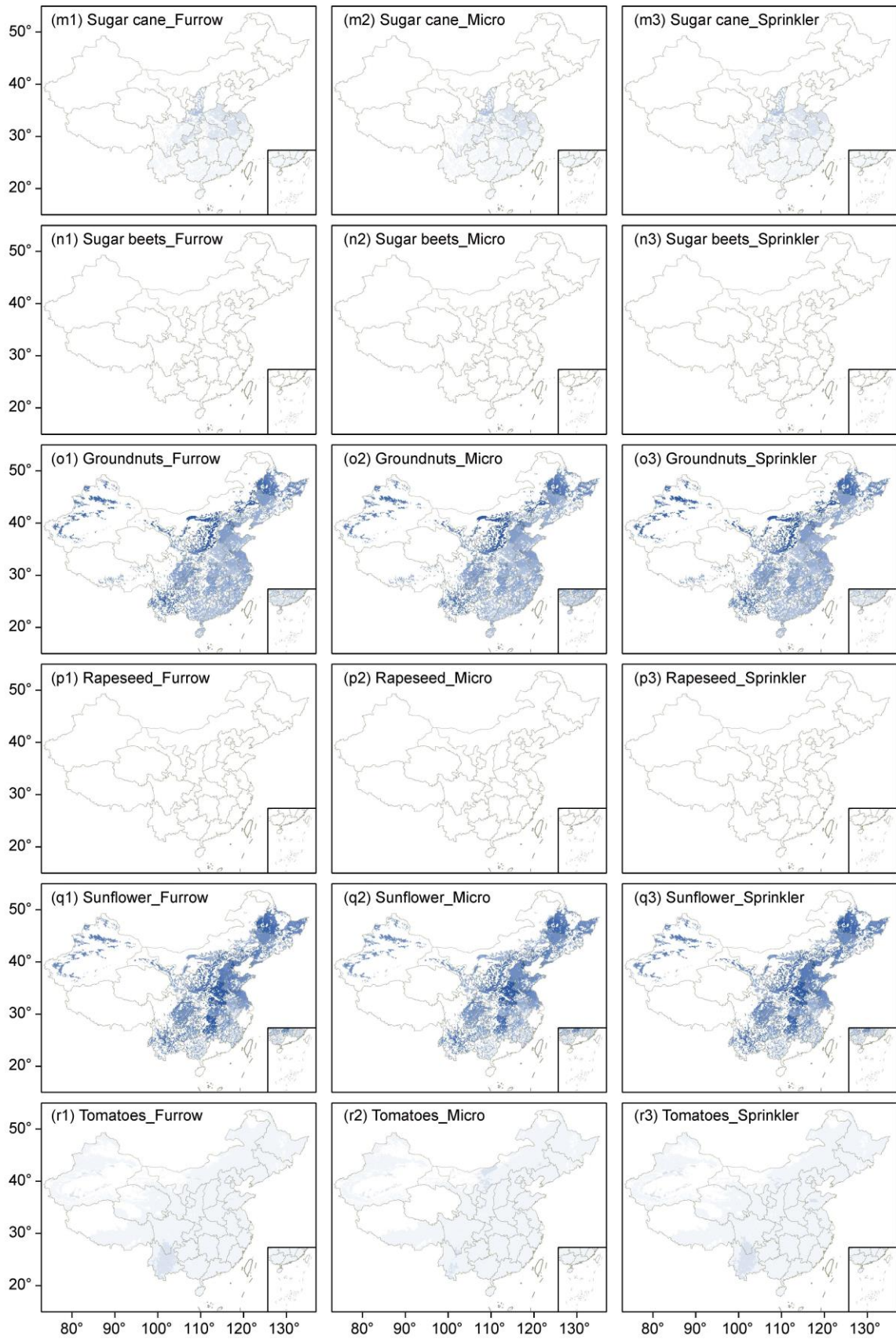


Fig. S21 Relative changes of the average gridded uWFCPg for 2000-2009 to that for 2010-2018.







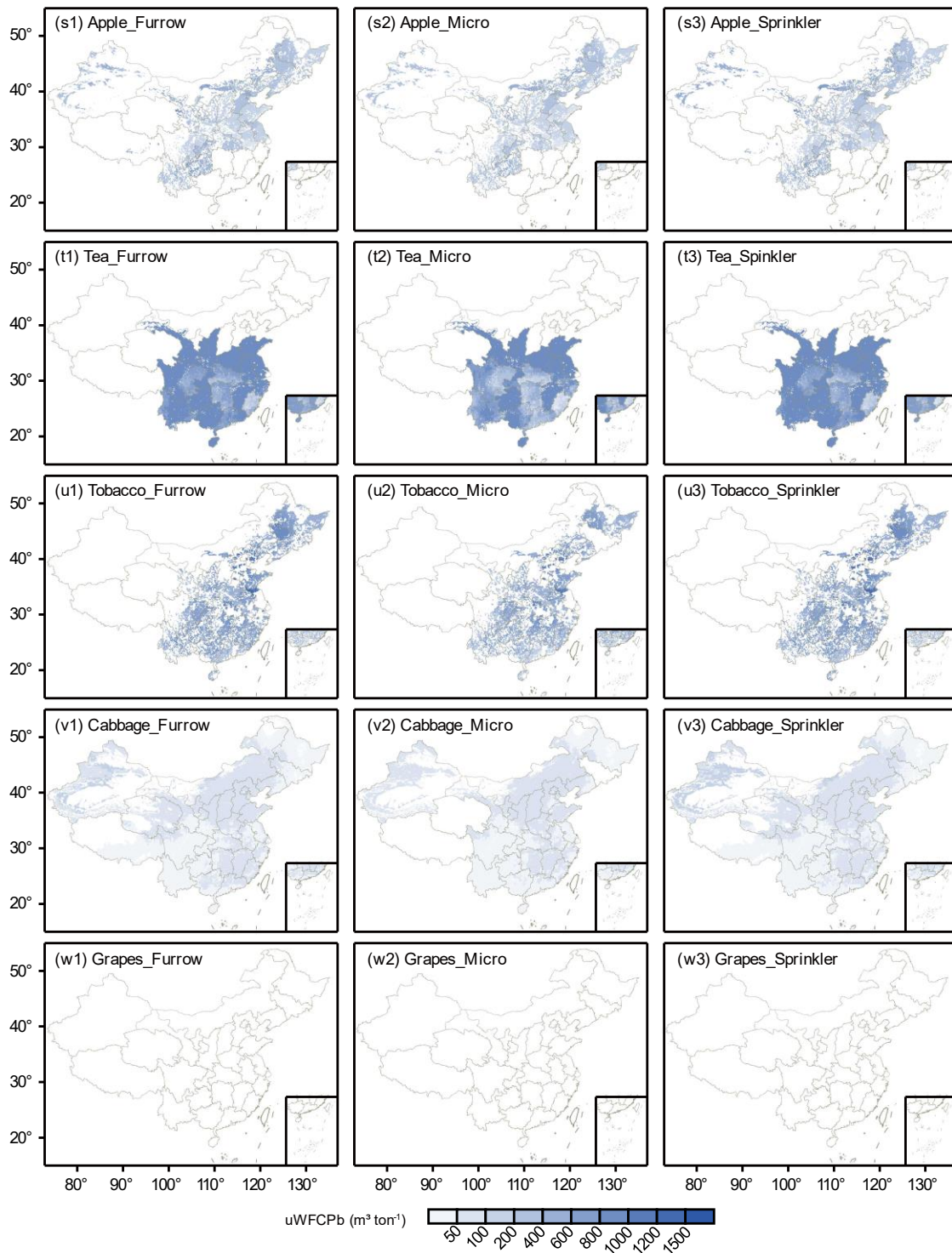
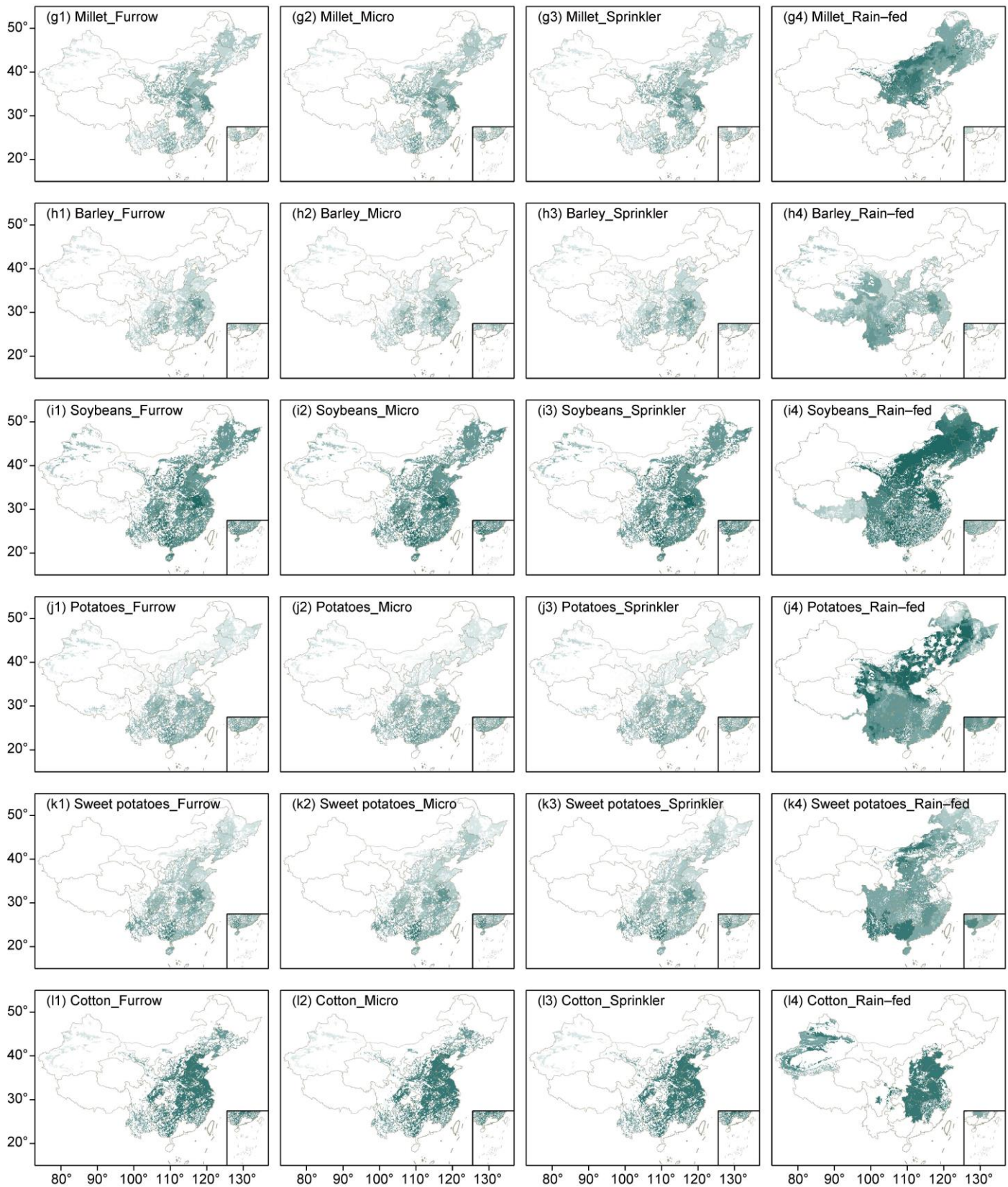


Fig. S22 Gridded uWFCPb (annual average for 2010-2018).







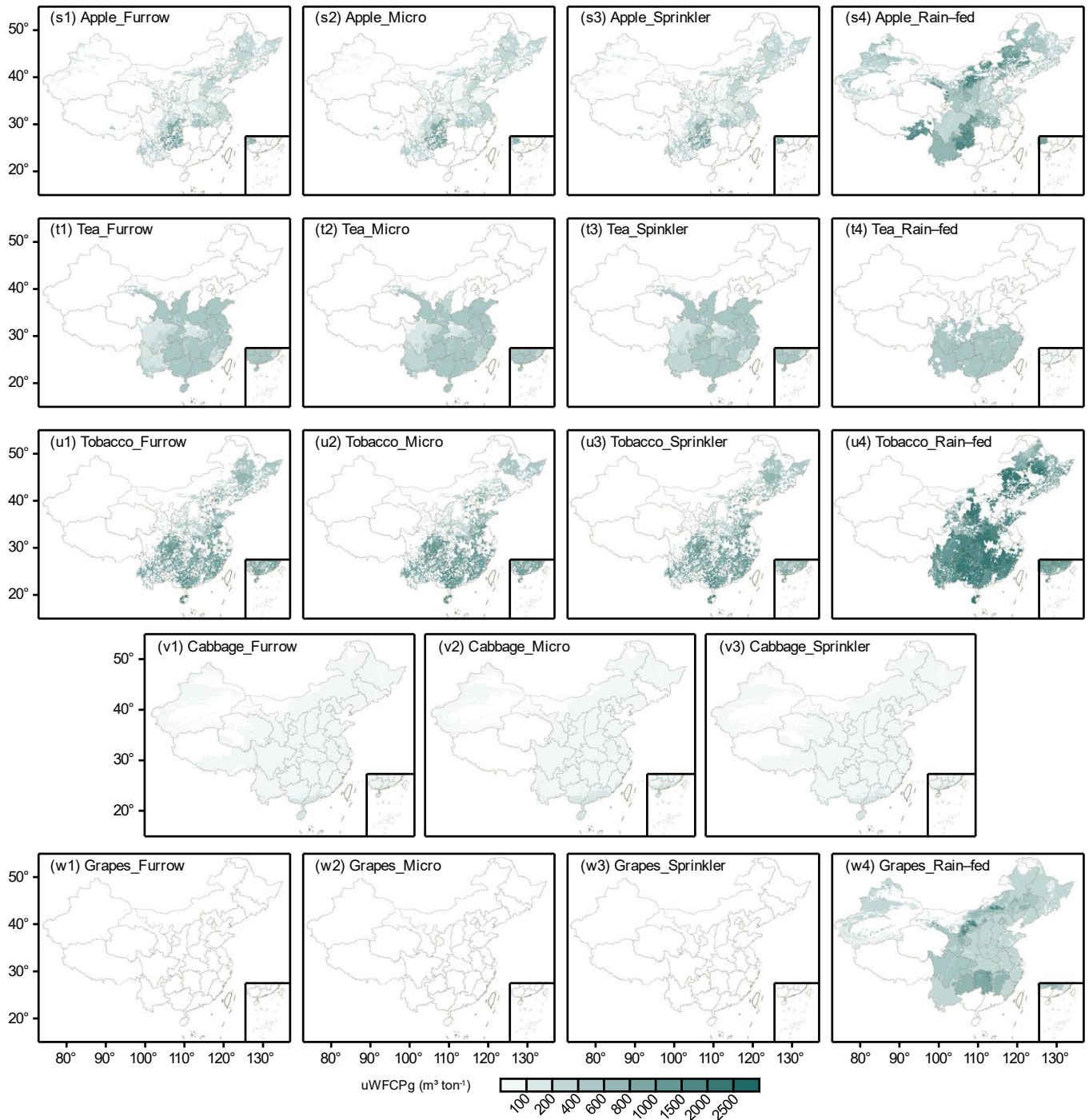
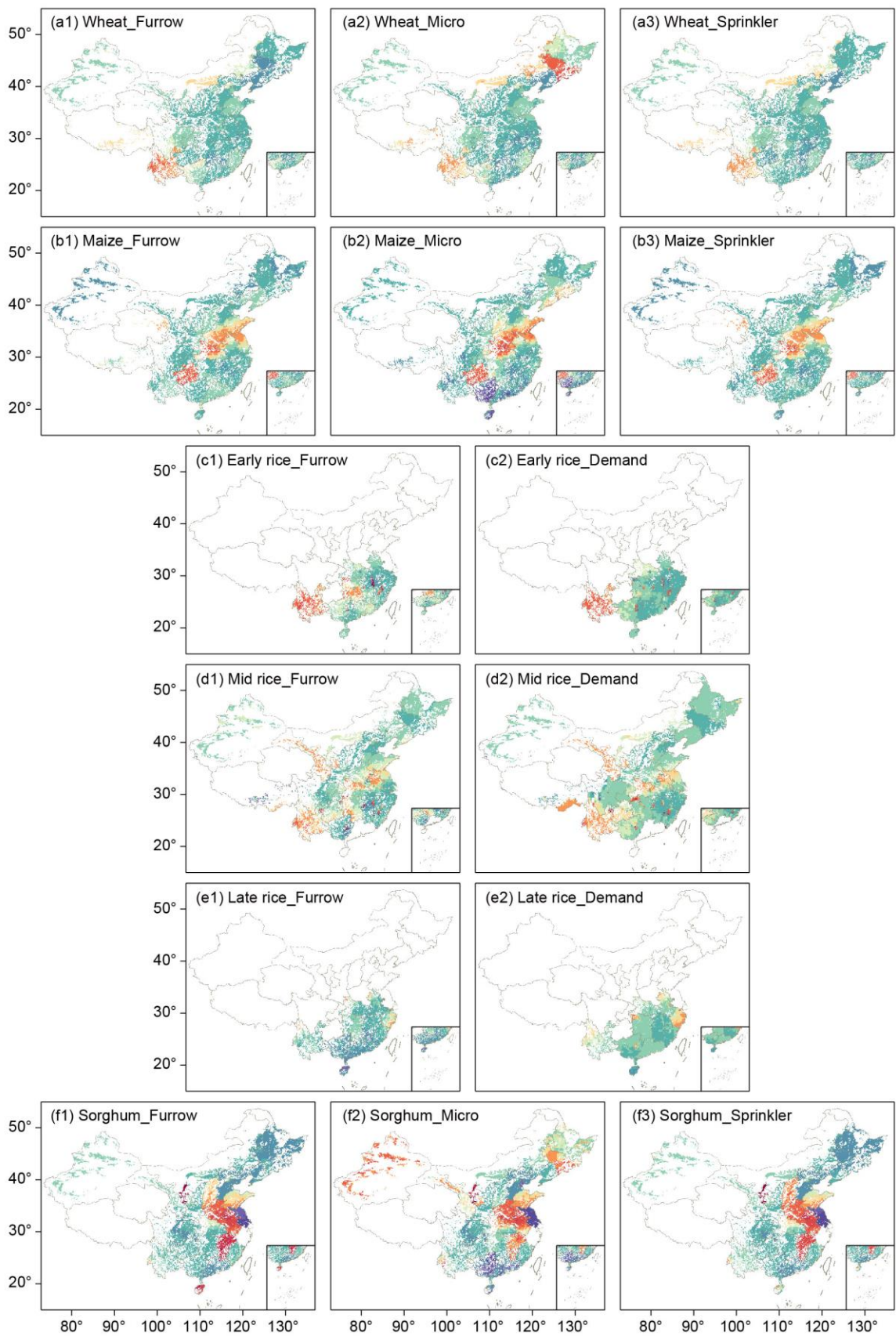
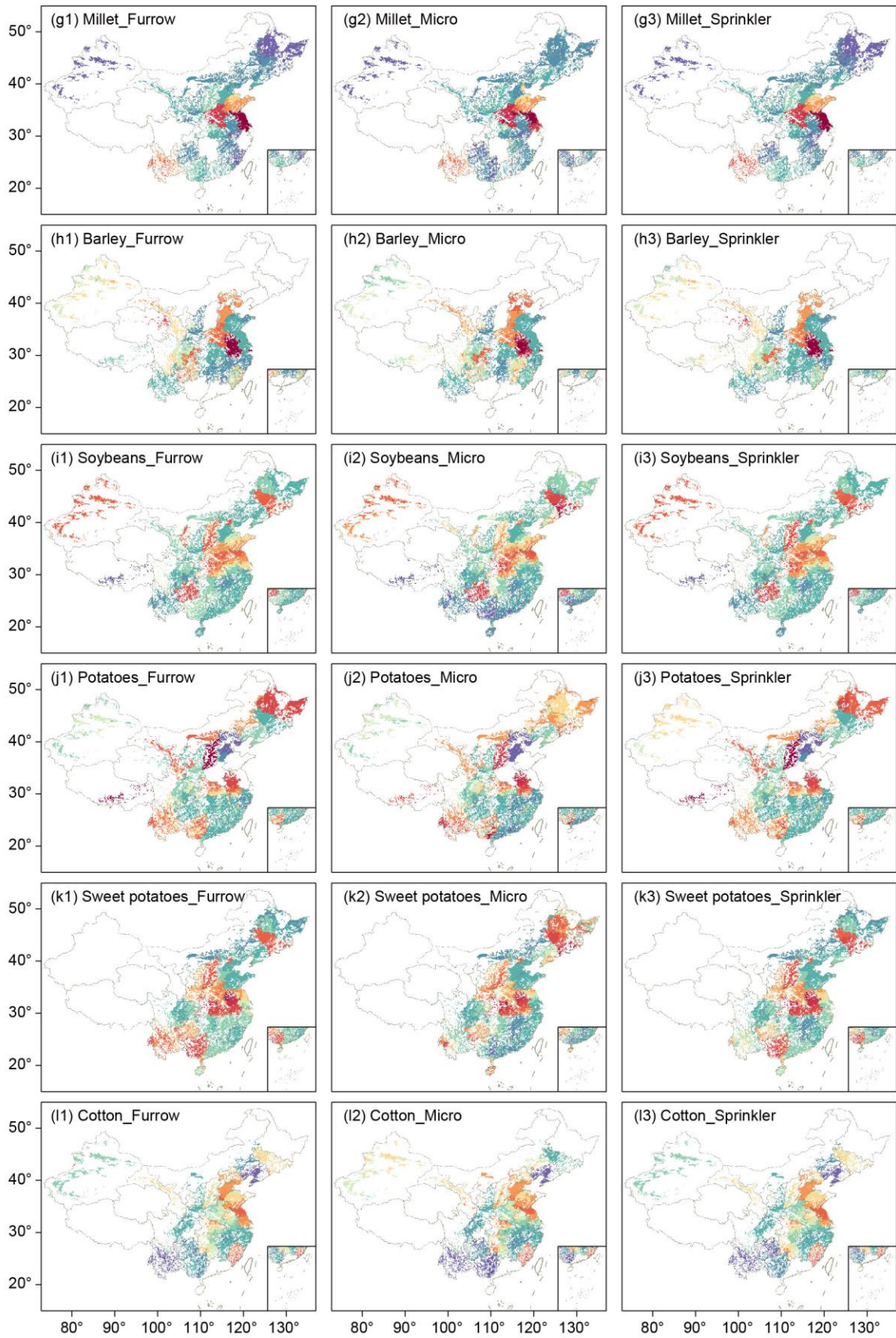
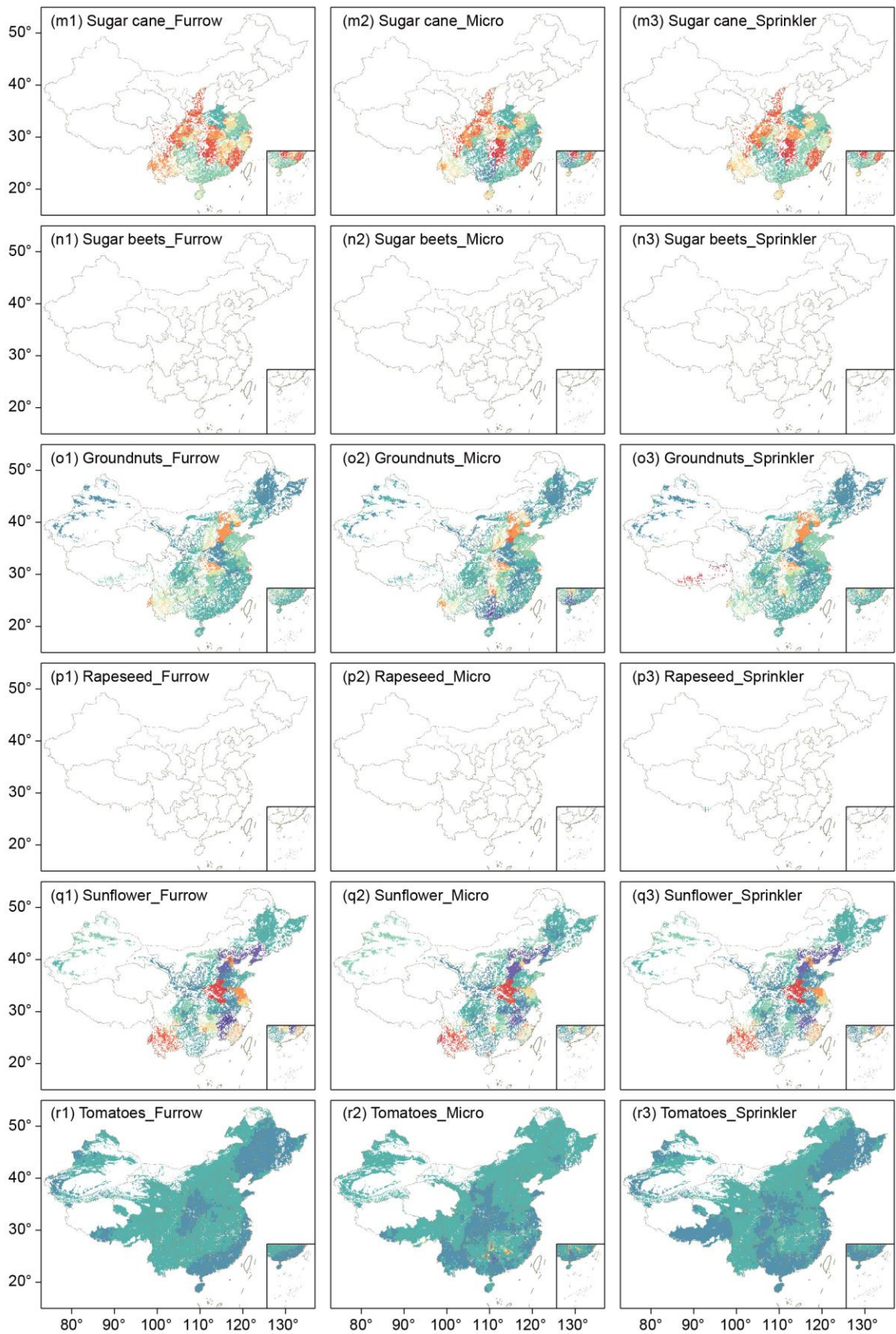


Fig. S23 Gridded uWFCPg (annual average for 2010-2018).







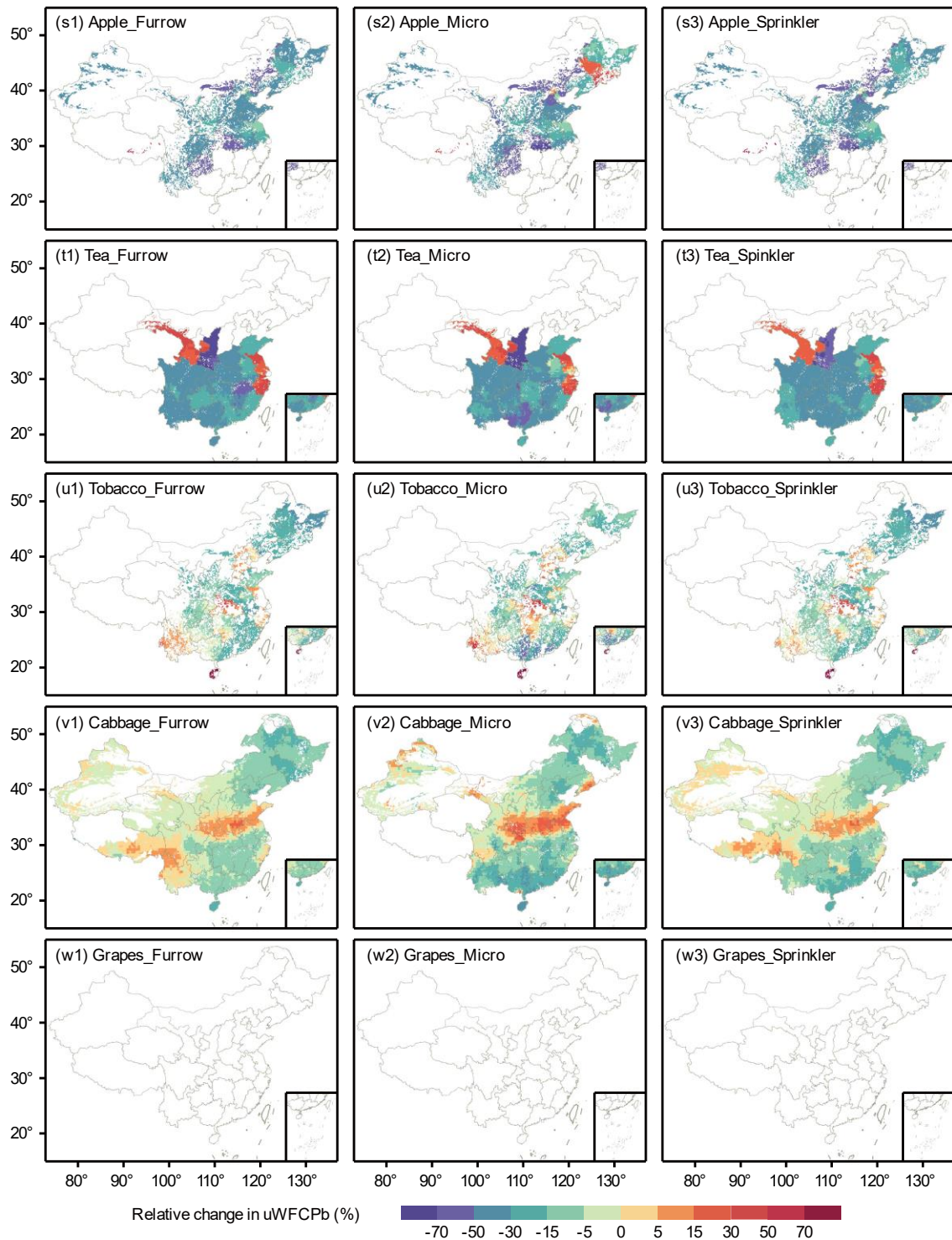
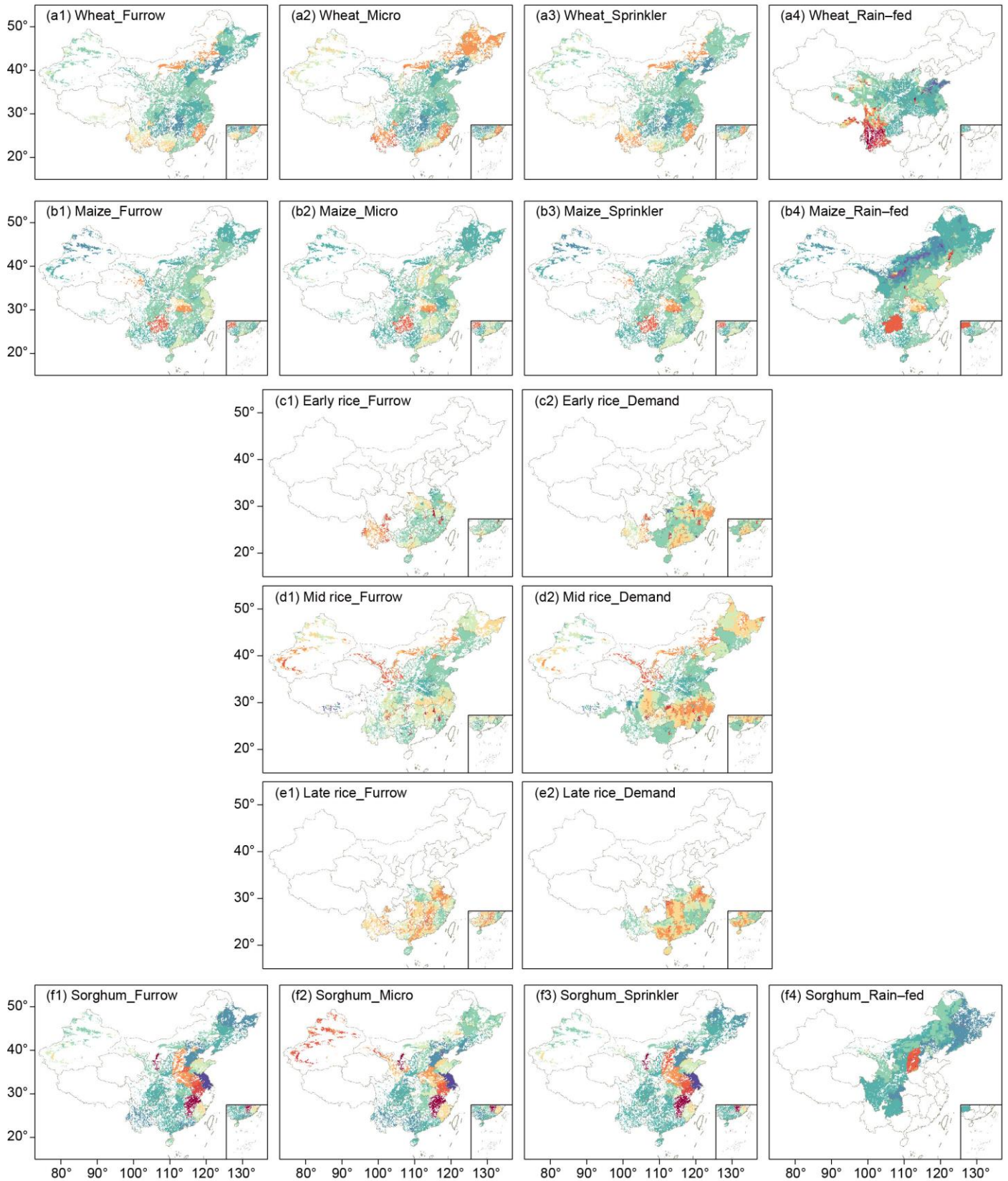
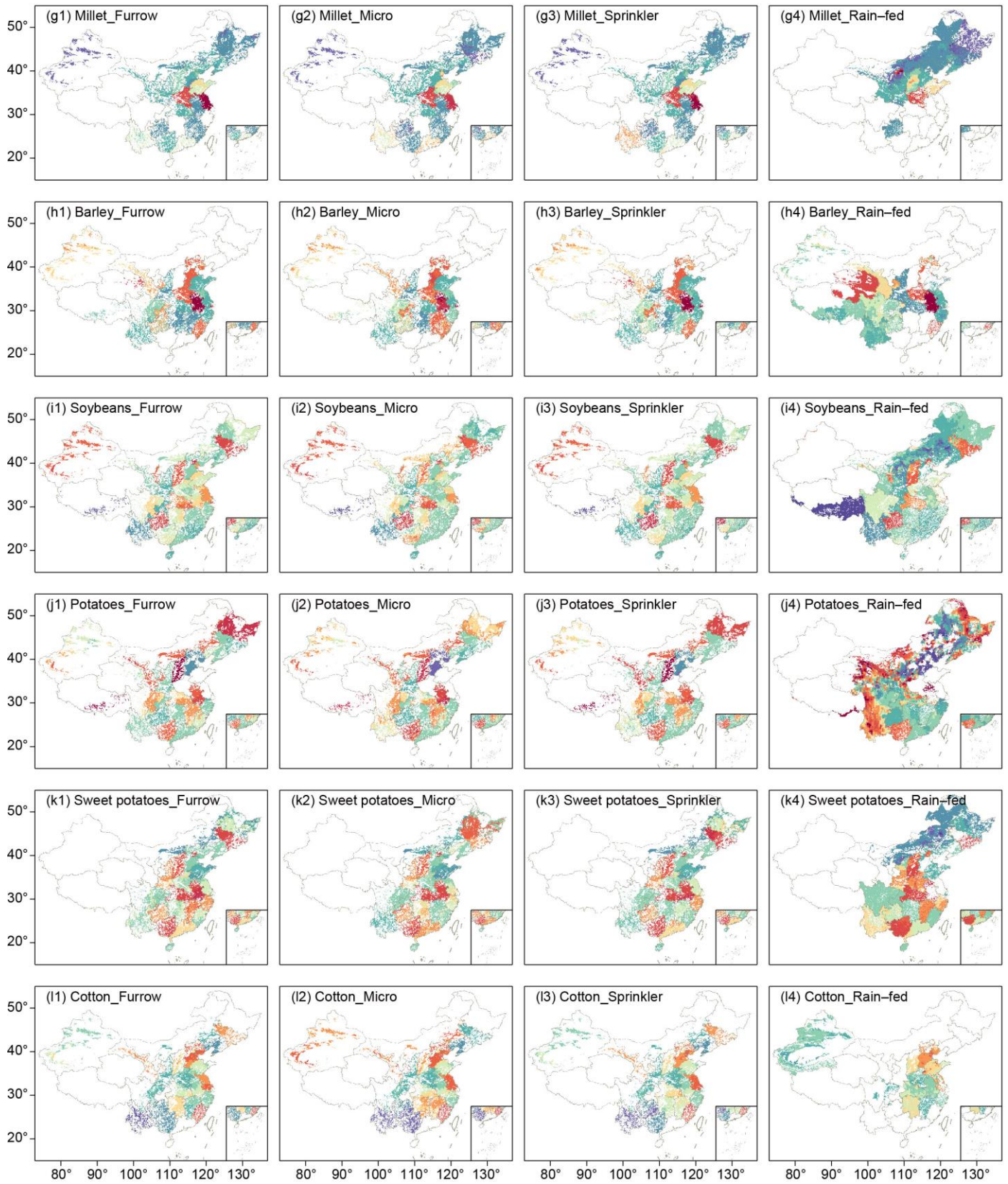
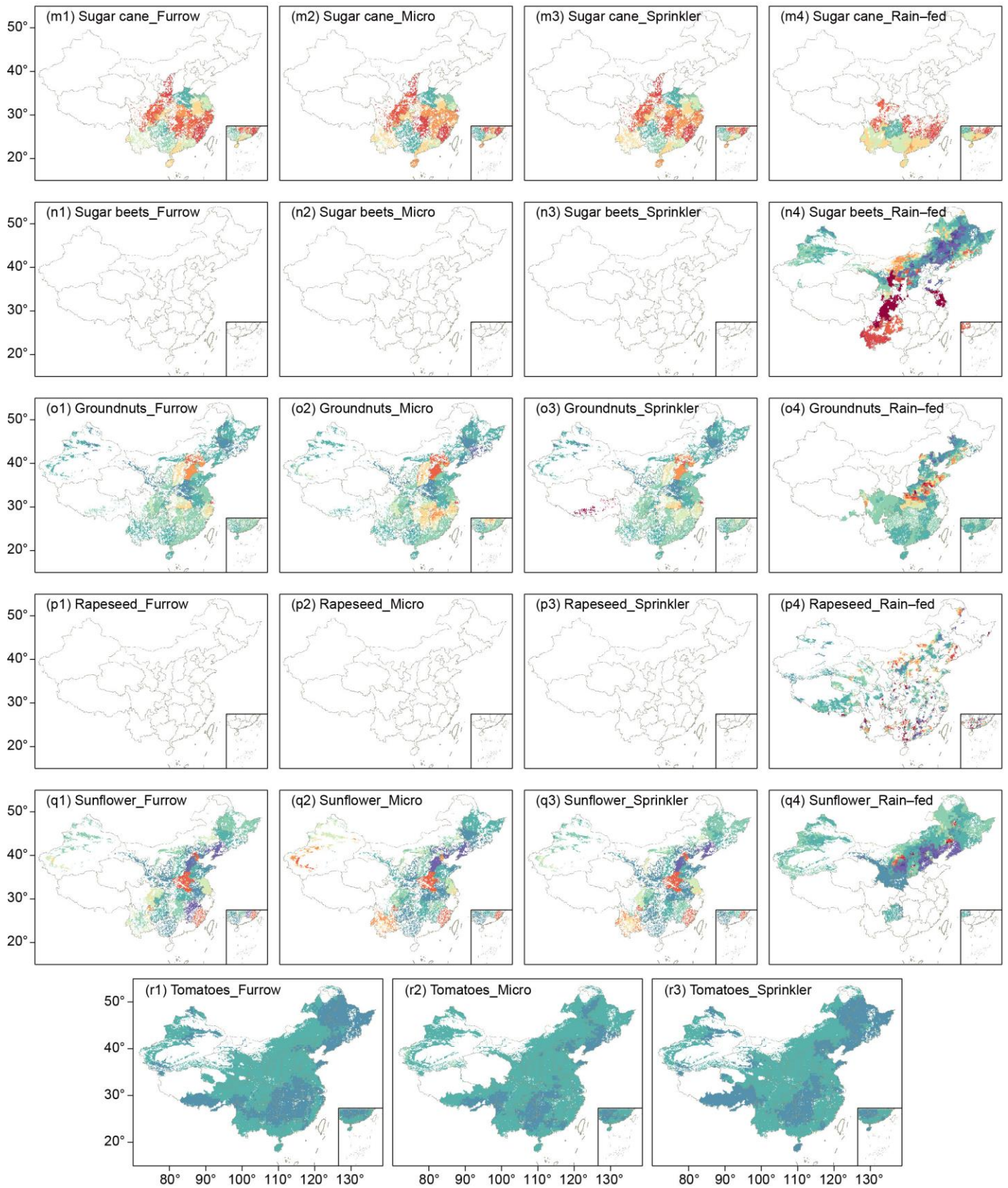


Fig. S24 Relative changes of the average gridded uWFCPb under different water supply and irrigation practices for 2000-2009 to that for 2010-2018.







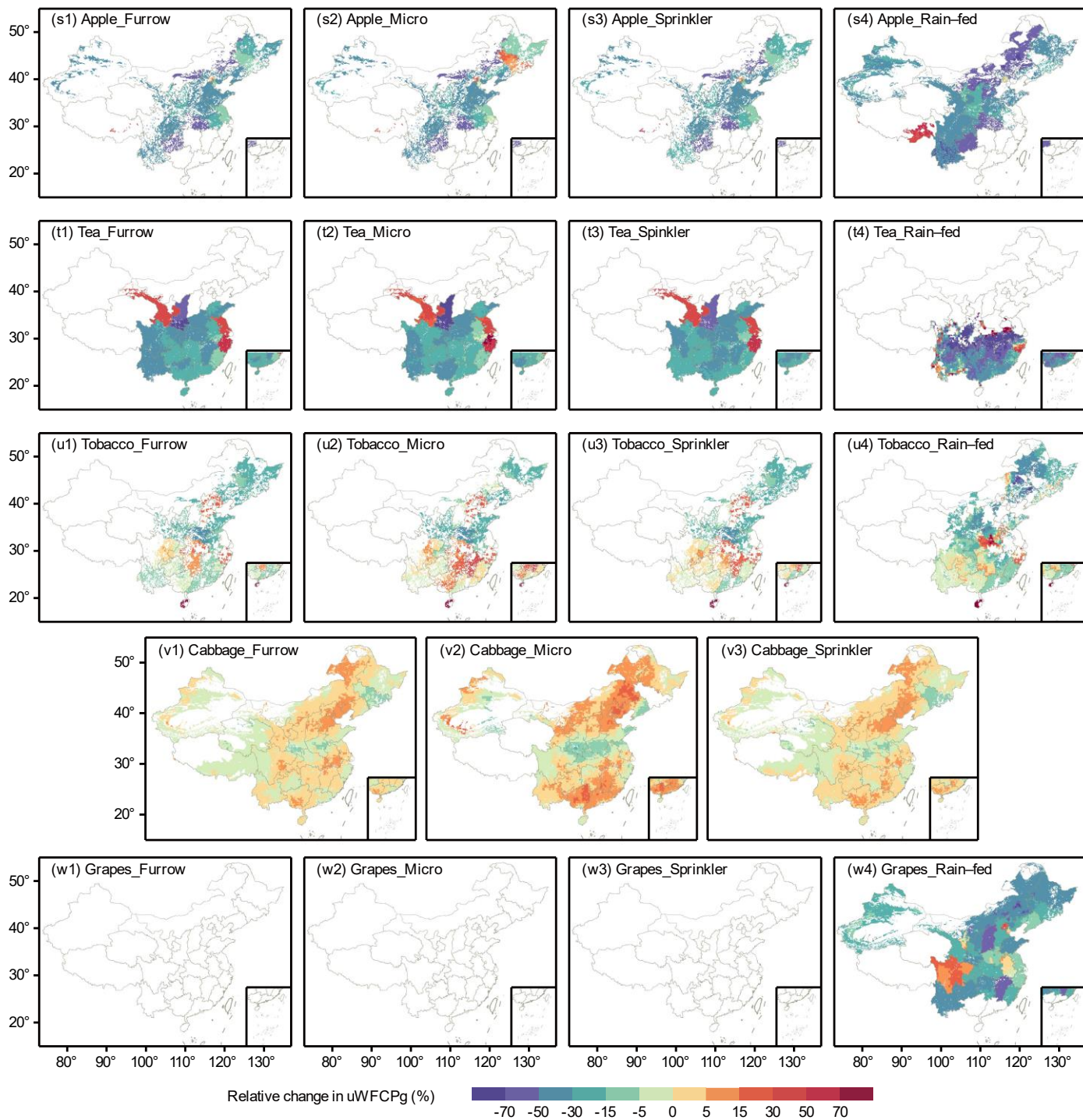


Fig. S25 Relative changes of the average gridded uWFPCg under different water supply and irrigation practices for 2000–2009 to that for 2010–2018.

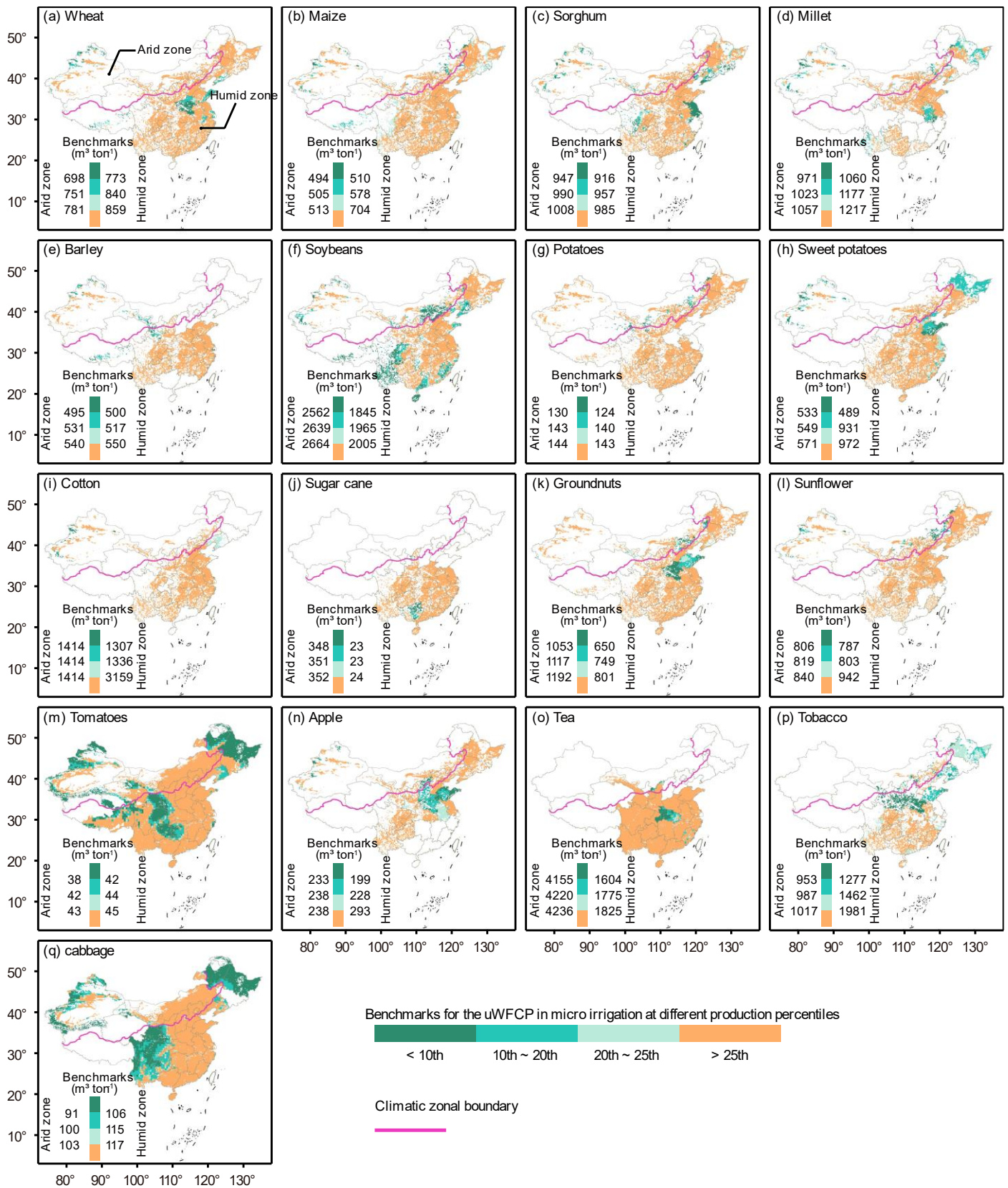


Fig. S26 Benchmarks for the uWFCP at different production percentiles under micro irrigation in China by 2018.

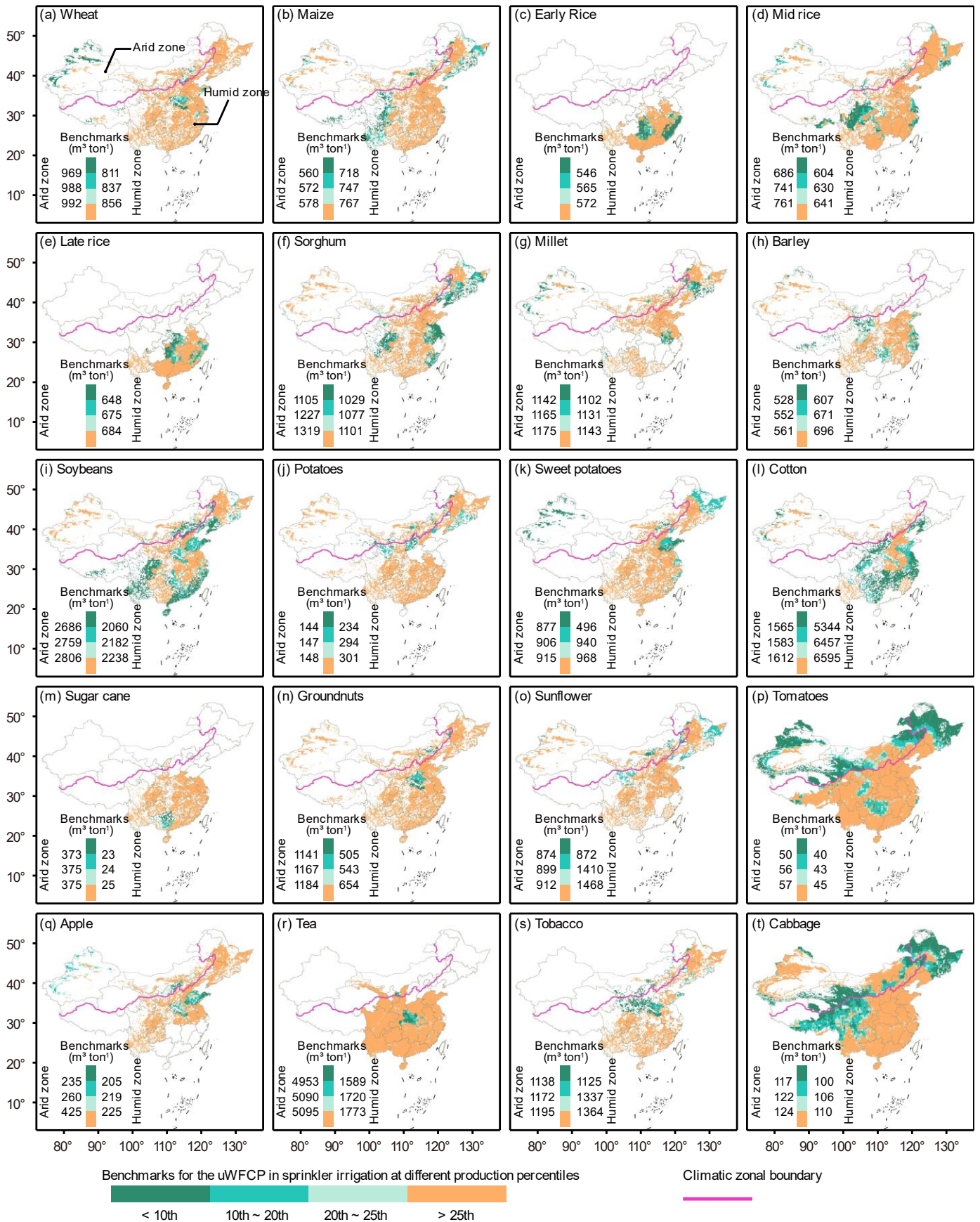


Fig. S27 Benchmarks for the uWFCP at different production percentiles under sprinkler irrigation in China by 2018.

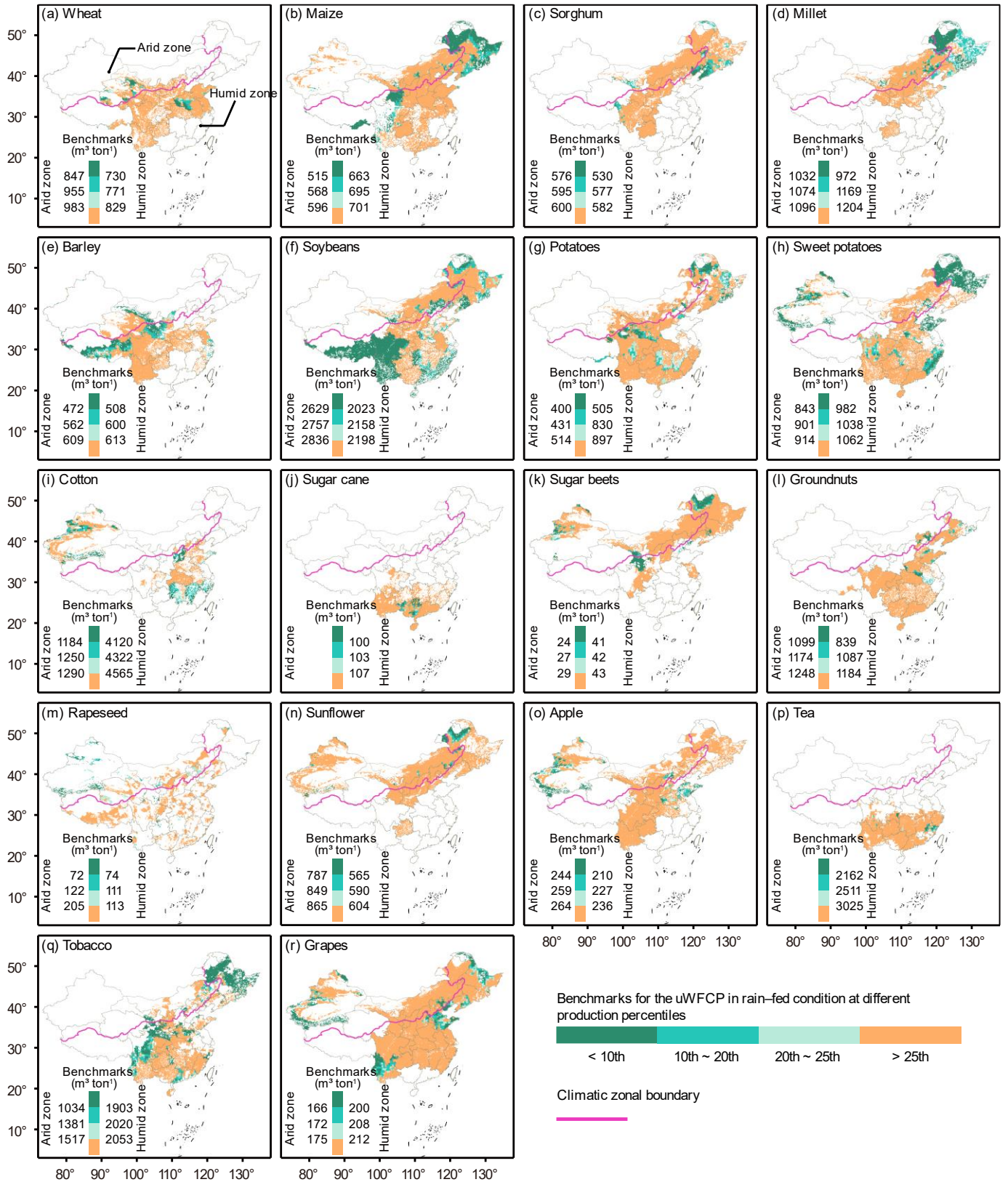


Fig. S28 Benchmarks for the uWFCP at different production percentiles under rain-fed conditions in China by 2018.