

Table S1. Irrigation Quota of Main Crops in Northwest Arid Area

Region	Crops	Irrigation methods	Irrigation amount (m³/ha)	Region	Crops	Irrigation methods	Irrigation amount (m³/ha)
Inner Mongolia Autonomous Region	Rice	Conventional Irrigation	9435~10170	Xinjiang Uygur Autonomous Region	Rice	Conventional Irrigation	11550~14850
	Wheat	Seepage-Preventing Ditch Irrigation	1710~3585			Irrigation on Film	9225~12675
		Pipe Irrigation	1485~3255		Wheat	Conventional Irrigation	4275~5775
		Sprinkler Irrigation	1530~3255			Irrigation on Film	3675~4950
	Maize	Seepage-Preventing Ditch Irrigation	1875~3585			Sprinkler Irrigation	3300~4425
		Pipe Irrigation	1770~3435		Maize	Micro-Irrigation	3075~4875
		Sprinkler Irrigation	1785~3255			Conventional Irrigation	4275~6900
	Beans	Seepage-Preventing Ditch Irrigation	1545~2595			Irrigation on Film	3675~5850
		Pipe Irrigation	1485~2415		Cotton	Sprinkler Irrigation	3225~5100
		Sprinkler Irrigation	1530~2370			Micro-Irrigation	3075~4875
	Potatoes	Pipe Irrigation	1395~3315			Conventional Irrigation	5550~7125
		Sprinkler Irrigation	1215~3255		Beans	Irrigation on Film	4725~6075
	Fruit trees	Border irrigation	2625~4710			Sprinkler Irrigation	4125~5400
		Drip irrigation	2505~3840			Micro-Irrigation	3900~4950
		Pipe Irrigation	4185~4875		Potatoes	Conventional Irrigation	4200~6450
Ningxia Hui Autonomous Region	Rice	Conventional Irrigation	15000~15750			Irrigation on Film	3675~5475
		Water-Saving Irrigation	11800~12450			Sprinkler Irrigation	3150~4875
	Wheat	Border irrigation	2625~4650			Micro-Irrigation	3000~4500
	Maize	Border irrigation	2400~4350		Potatoes	Conventional Irrigation	3900~5550
		Furrow Irrigation	1875~3300			Irrigation on Film	3300~4725

		Drip irrigation	1500~3150			Sprinkler Irrigation	2925~4125
	Potatoes	Furrow Irrigation	1200~2400			Micro-Irrigation	2775~3900
		Drip irrigation	1425~1500		Fruit trees	Conventional Irrigation	4650~8775
		Sprinkler Irrigation	1800			Irrigation on Film	5250~7425
	Fruit trees	Border irrigation	3000~4500			Sprinkler Irrigation	4650~6525
		Furrow Irrigation	2400~5250		Micro-Irrigation	4325~6150	
		Drip irrigation	1350~4200			Rice	Conventional Irrigation
	Qinghai Province	Wheat	Conventional Irrigation				2475~4950
Sprinkler Irrigation			2100~4215	Micro-Irrigation			6285~9855
Micro-Irrigation			1860~3720	Wheat		Conventional Irrigation	1575~6450
Maize		Conventional Irrigation	2700~4950			Sprinkler Irrigation	1125~4575
		Sprinkler Irrigation	2295~4215			Micro-Irrigation	1050~4320
		Micro-Irrigation	2025~3720	Maize		Conventional Irrigation	1050~6600
Beans		Conventional Irrigation	2250~4050			Sprinkler Irrigation	750~4680
		Sprinkler Irrigation	1920~3450		Micro-Irrigation	705~4425	
	Shaanxi Province	Beans	Micro-Irrigation	1695~3045	Beans	Conventional Irrigation	2625~4500
Potatoes			Conventional Irrigation	1350~3000		Sprinkler Irrigation	1860~3195
			Sprinkler Irrigation	1155~2550		Micro-Irrigation	1755~3015
		Micro-Irrigation	1020~2250	Potatoes	Conventional Irrigation	3150~5775	
Fruit trees		Conventional Irrigation	3600~5100		Sprinkler Irrigation	2235~4095	
		Sprinkler Irrigation	3060~4335		Micro-Irrigation	2115~3870	
		Micro-Irrigation	2700~3825	Fruit trees	Conventional Irrigation	1350~9450	
The Qaidam Basin		Wheat	Conventional Irrigation		5250~6750	Sprinkler Irrigation	960~6705
	Sprinkler Irrigation		4470~5745		Micro-Irrigation	900~6330	
	Micro-Irrigation		3945~5070	Gansu Province	Rice	Block Irrigation	6150

	Beans	Conventional Irrigation	4125~5775		Wheat	Border irrigation	3750~4050
		Sprinkler Irrigation	3510~4905			Sprinkler Irrigation	900~1800
		Micro-Irrigation	3090~4335			Block Irrigation	4500~4950
	Potatoes	Conventional Irrigation	4125~5775		Maize	Border irrigation	3900~4050
		Sprinkler Irrigation	3510~4905			Block Irrigation	5250
		Micro-Irrigation	3090~4335		Potatoes	Border irrigation	3750~4050
						Furrow Irrigation	2400~3600

Note: The irrigation guarantee rate in this table is 75 %.