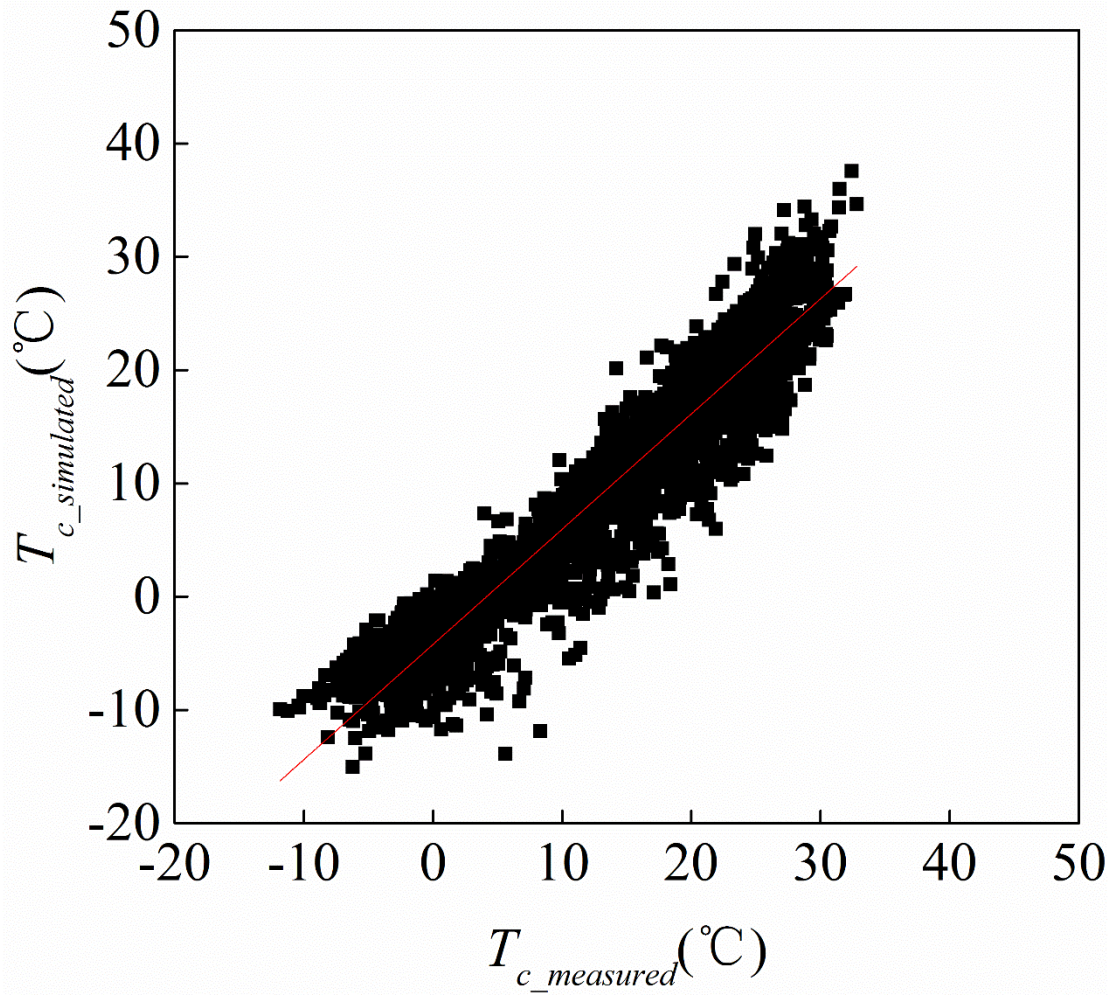

Fig.1 The relationship between simulated canopy temperature ($T_{c_simulated}$) and measured canopy temperature ($T_{c_measured}$) at Yucheng station over 2003-2010

Linear regression equation: $T_{c_simulated} = 1.02 * T_{c_measured} - 4.22$, $R^2 = 0.91$, $p < 0.001$

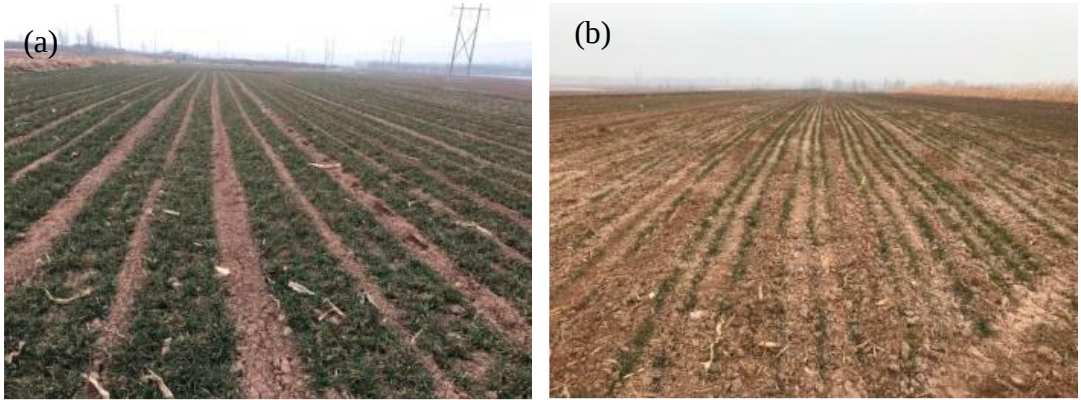

Fig.2 Land surface characteristics of winter wheat in re-greening period for (a) early and (b) late sowing date. Photos taken by Liu Fengshan in Fengjiafangzi Village,

Jinzhongzi Town, Anqiu City, Shandong Province, on February 25, 2018.

Table 1 The coverage differences between two scenarios of snow and crop in the 4 phases at selected 10 stations

Stations	Snow coverage				Crop coverage			
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 1	Phase 2	Phase 3	Phase 4
Miyun	0	0	0	0	0.927	0.009	0	0
Baodi	0	0	0.01	0	0.919	0.011	0	0
Tangshan	0	0	0	0	0.917	0.013	0	0
Huanghua	0	0	0	0	0.827	0.002	0	-0.001
Weifang	0	0	0	0	0.82	0	0	0
Xinxiang	0	0	0.01	0	0.768	0	0	0.001
Zhengzhou	0	0	0	0	0.764	0	0	0.002
Shangqiu	0	0	0.01	0.01	0.753	0	0	0.001
Nanyang	0	0	0.01	0	0.719	0	0	0.003
Zhumadian	0	0	0.01	0	0.741	0	0	0.003