

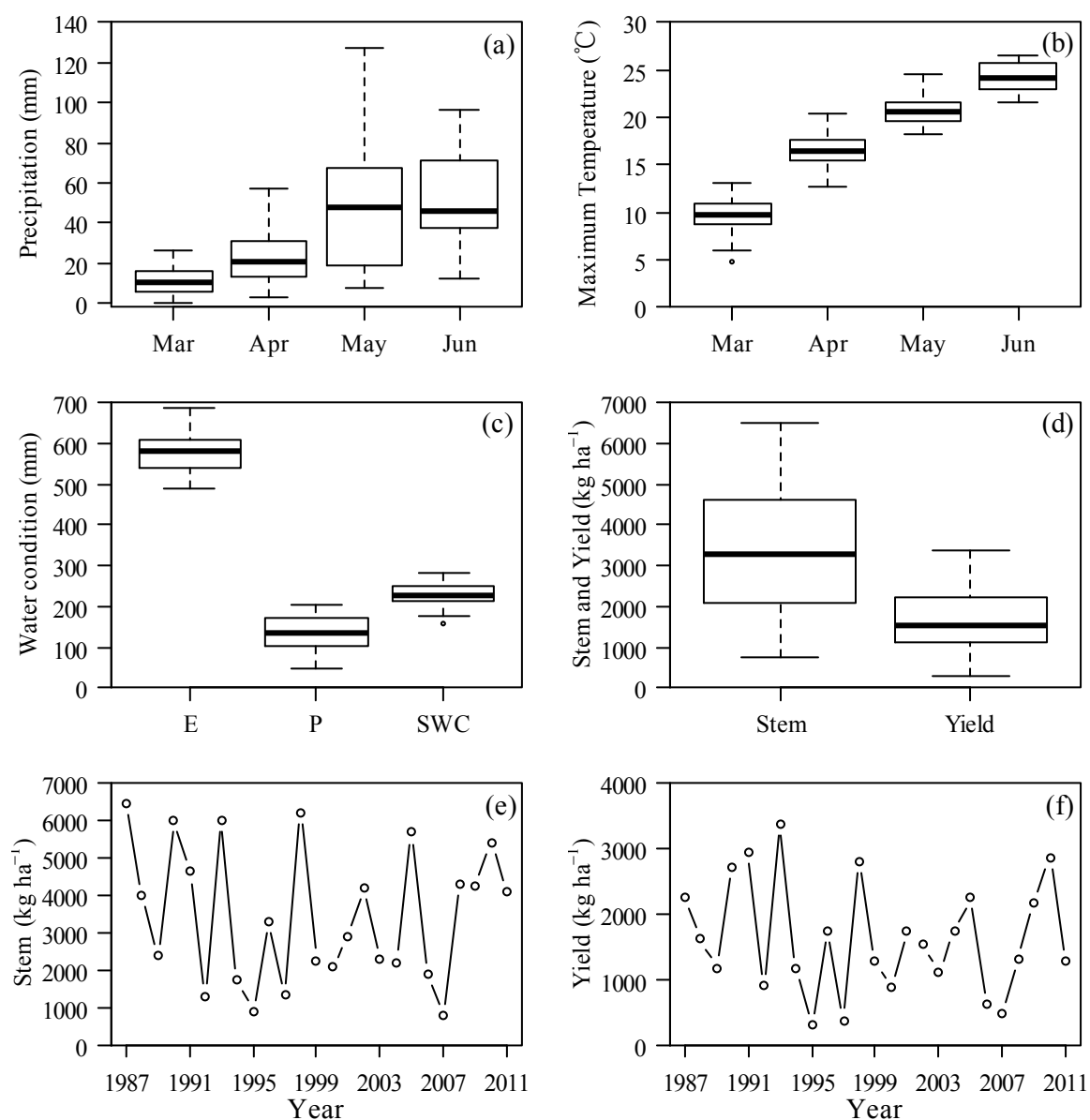


Figure S1. Statistical information for (a) precipitation in March, April, May and June; (b) maximum temperature in March, April, May and June; (c) water condition, including pan evaporation (E), precipitation (P) and soil water content (SWC) at sowing day; (d) stem and yield; (e) variation of stem; and (f) variation of yield during 1987-2011 in Dingxi of Western Loess Plateau.

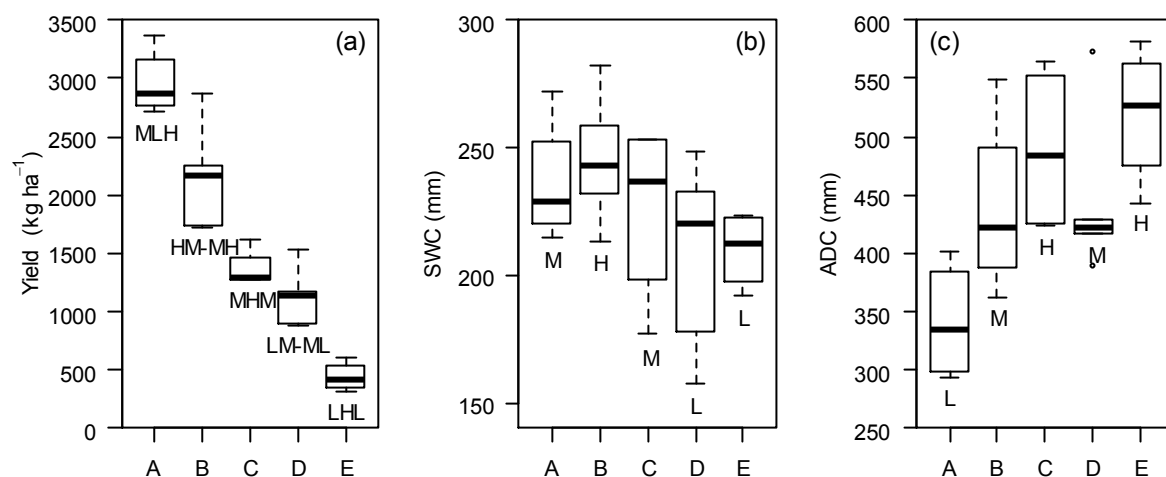


Figure S2. Five climatic patterns for spring wheat in Dingxi based on soil water content (SWC) at sowing and atmospheric dryness condition (ADC) during wheat growing season. MLH= medium SWC at sowing (M) and lowest ADC (L) resulting in the highest spring wheat yield (H). HM-MH= the highest SWC at sowing (H) and medium ADC (M) resulting in moderately highest spring wheat yield (MH). MHM= medium SWC at sowing (M) and highest ADC (H) resulting in medium spring wheat yield (M). LM-ML= the lowest SWC at sowing (L) and medium ADC (M) resulting in moderately lowest spring wheat yield (ML). LHL= the lowest SWC at sowing (L) and the highest ADC (H) resulting in the lowest spring wheat yield (L).