

# Soil Water Content at Planting Affects Determining Agricultural Drought for Rainfed Spring Wheat

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**Table S1.** The regression equations between spring wheat yield and precipitation during spring wheat growing season. Equation 1, 2 and 3 was the relationship between spring wheat yield and precipitation during spring wheat growing season without and with classification by soil water content at planting. Soil conditions was classified into two groups by amount of soil water content at planting greater or less than 100 mm. The uppercase letters after the numbers indicates a significant difference at 0.01 level, and the lowercase letters indicates a significant difference at 0.05 level.

| Equation number | Soil conditions | Slope    | Intercept | R <sup>2</sup> | P      |
|-----------------|-----------------|----------|-----------|----------------|--------|
| 1               | /               | 11.22 B  | 13.06 B   | 0.275          | <0.05  |
| 2               | Wet             | 13.66 Ab | -41.90 C  | 0.624          | <0.05  |
| 3               | Dry             | 14.92 Aa | 45.82 A   | 0.612          | <0.001 |

**Table S2.** Mean values of spring wheat yield, soil water content at planting, and precipitation during spring wheat growing season of five different climatic patterns. H, M and L indicates high, middle and low levels, respectively. The uppercase letters after the numbers indicate a significant difference at 0.01 level, and the lowercase letters indicate a significant difference at 0.05 level.

| Patterns  | Soil water content (mm) | Precipitation (mm) | Yield (Kg ha <sup>-1</sup> ) | Class   |
|-----------|-------------------------|--------------------|------------------------------|---------|
| A (HHH)   | 127.42 Aa               | 175.85 A           | 3161.433 A                   | Normal  |
| B (MH-MH) | 90.275 B                | 178.925 A          | 2169.146 B                   | Normal  |
| C (HLM)   | 113.396 Ab              | 86.26 C            | 1756.75 C                    | Normal  |
| D (LM-ML) | 80.084 C                | 123.671 B          | 1152.824 D                   | Drought |
| E (LLL)   | 81.305 C                | 57.8 D             | 342.5 E                      | Drought |