

Figure S1. Accumulated precipitation and average temperature during the growing season. **(a)** From May 20 to September 16 in 2019. **(b)** From May 14 to September 9 in 2020. **(c)** Average temperature and accumulated precipitation from May to September for the years 2000 and 2020.

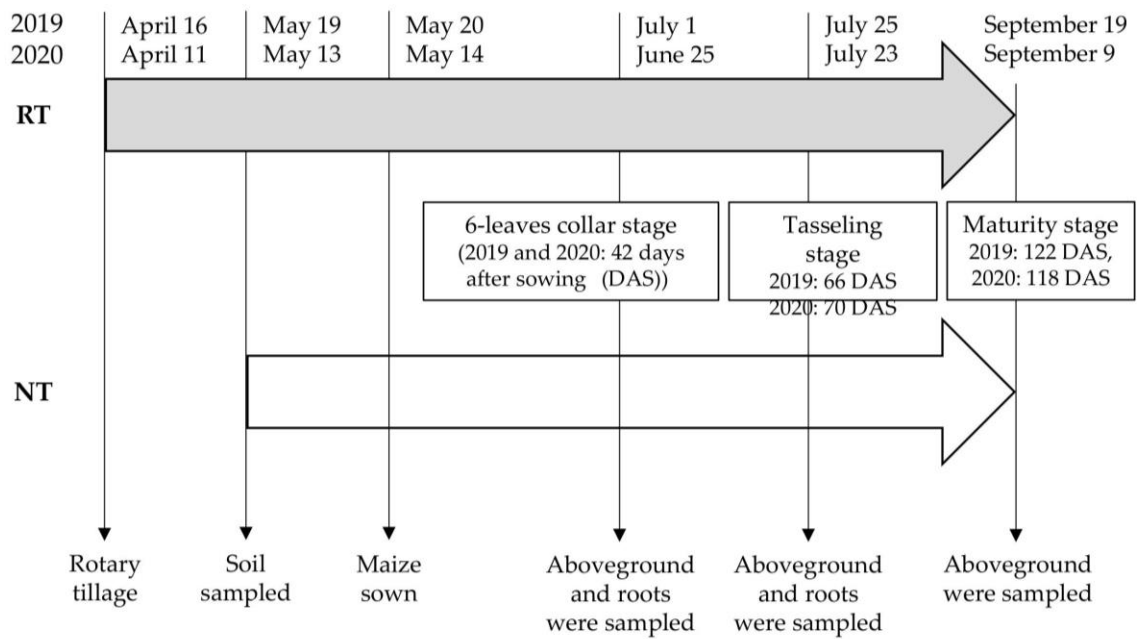


Figure S2. Cultivation system in experiment 1. RT=Rotary tillage, NT=No-tillage.

Table S1. Soil chemical properties in the field experiment.

Soil chemical properties	Values
Soil pH (H ₂ O)	5.91 ± 0.01
EC (μS/cm)	63.8 ± 3.74
Available soil P (mg/100 g)	3.83 ± 0.72
Nitrate N (mg/100 g)	20.9 ± 2.42
Exchangeable (mg/100 g)	52.0 ± 2.89

Table S2. Soil chemical properties in the pot experiment.

Soil chemical properties	Values
Soil pH (H ₂ O)	6.20 ± 0.03
EC (μS/cm)	5.00 ± 3.33
Available soil P (mg/100 g)	1.74 ± 0.40
Nitrate N (mg/100 g)	1.66 ± 0.03