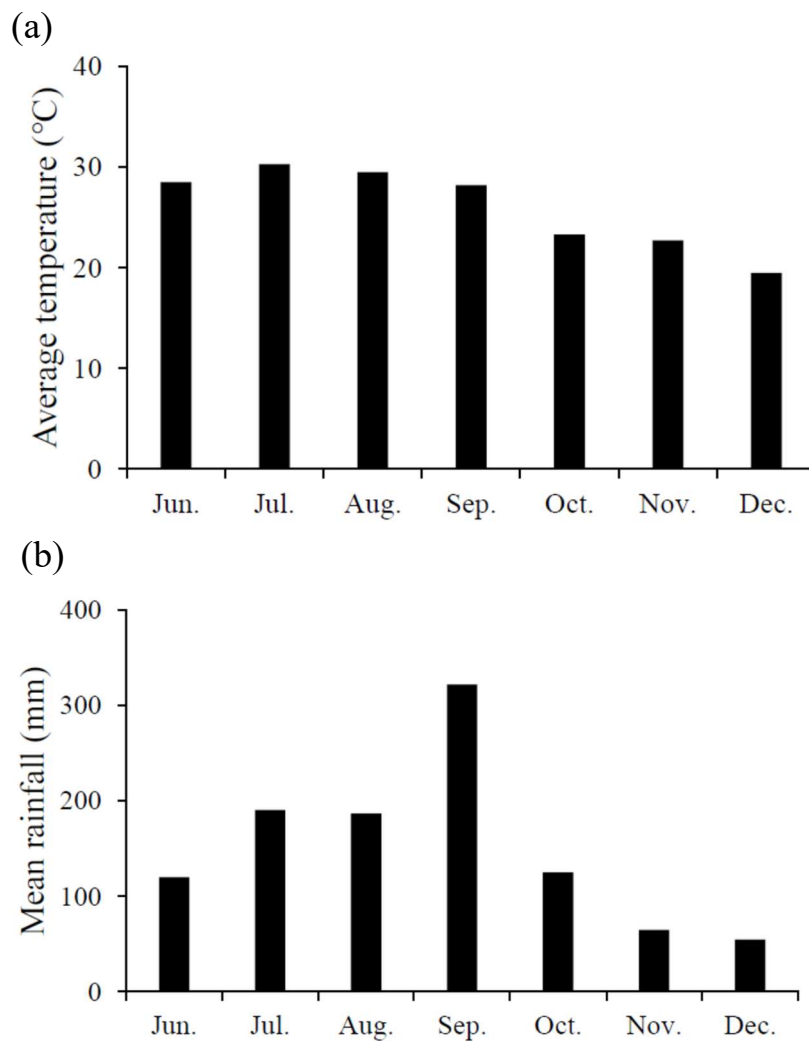


## Supplementary materials



**Figure S1.** Average monthly field temperature and rainfall during the period of *V. negundo* cultivation (June 2018 to December 2018). (a) Average temperature; (b) Mean rainfall. The meteorological observation data was taken from the Central Weather Bureau of Taiwan.

**Table S1.** Design of different fertilizer treatments in field experiments

Experiment 1: Nitrogen treatments	kg ha <sup>-1</sup>		
	N	P (P <sub>2</sub> O <sub>5</sub> )	K (K <sub>2</sub> O)
Control group (NCK)	0	0	0
50 kg-N ha <sup>-1</sup> (N5; N:P:K = 50:100:100)			
Basal fertilizer	25	30	30
First top dressing	25	35	35
Second top dressing	0	35	35
100 kg-N ha <sup>-1</sup> (N10; N:P:K = 100:100:100)			
Basal fertilizer	30	30	30
First top dressing	35	35	35
Second top dressing	35	35	35
200 kg-N ha <sup>-1</sup> (N20; N:P:K = 200:100:100)			
Basal fertilizer	40	30	30
First top dressing	80	35	35
Second top dressing	80	35	35

Experiment 2: Phosphorous treatments	kg ha <sup>-1</sup>		
	N	P (P <sub>2</sub> O <sub>5</sub> )	K (K <sub>2</sub> O)
Control group (PCK)	0	0	0
50 kg-P ha <sup>-1</sup> (P5; N:P:K = 100:50:100)			
Basal fertilizer	30	25	30
First top dressing	35	25	35
Second top dressing	35	0	35
100 kg-P ha <sup>-1</sup> (P10; N:P:K = 100:100:100)			
Basal fertilizer	30	30	30
First top dressing	35	35	35
Second top dressing	35	35	35
200 kg-P ha <sup>-1</sup> (P20; N:P: K = 100:200:100)			
Basal fertilizer	30	40	30
First top dressing	35	80	35
Second top dressing	35	80	35