

Nitrogen application increases water use efficiency and economic benefit of spring mung bean-summer sweet maize cropping system on the North China Plain

Yicong ZHANG^{1*}, Xiqing HOU^{1*}, Yueqiang TONG¹, Yangkang HUANG¹, Bangwei ZHANG^{1,2},
Zhaohai ZENG^{1,2}, Yadong YANG(✉)^{1,2}

1 State Key Laboratory of Maize Bio-Breeding, College of Agronomy and Biotechnology, China Agricultural University, Beijing 100193, China.

2 Key Laboratory of Farming System of Ministry of Agriculture and Rural Affairs, China Agricultural University, Beijing 100193, China.

*These authors contributed equally to this work.

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Correspondence: yadong_tracy@cau.edu.cn

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Table S1 Unit and price of inputs and outputs used for economic analysis in this study

Item	Unit	Price (USD)
Input		
Seeds		
Summer sweet maize	kg	17.22
Spring mung bean	kg	0
Chemical fertilizers		
Nitrogen (N)	kg	0.62
Phosphate (P)	kg	2.79
Potassium (K)	kg	0.23
Electricity	kWh	0.08
Diesel fuel	litre	0.93
Pesticides	kg	1.08
Labor	h	1.15
Output		
Summer sweet maize	kg	0.46
Spring mung bean	kg	1.29

Note: Spring mung bean seeds are harvested from the previous year, regardless of cost. The unit price was estimated based on the local normal market price is average of 2020 and 2021.

Table S2 Economic contributions of spring mung bean-summer sweet maize cropping system under four N fertilization treatments

Year	Input/Output (USD·ha ⁻¹)	Treatment			
		N0	N1	N2	N3
2020 and	Input	2799.4	2891.0	2919.2	2965.4
2021	Seeds	688.8	688.8	688.8	688.8
	Fertilizer	843.0	917.4	945.6	991.8
	Machinery	152.5	152.5	152.5	152.5
	Labor	1017.8	1035.0	1035.0	1035.0
	Others	97.3	97.3	97.3	97.3
2020	Output	9049.0 ± 290.0a	9611.3 ± 230.0a	9271.3 ± 181.0a	9726.9 ± 213.7a
	Net income	6232.4 ± 290.0a	6720.3 ± 230.0a	6352.0 ± 181.0a	6761.5 ± 213.7a
2021	Output	5373.8 ± 97.8b	5833.8 ± 159.4a	5768.0 ± 96.9ab	5949.7 ± 169.4a
	Net income	2557.2 ± 97.8a	2942.8 ± 159.4a	2848.8 ± 96.9a	2984.3 ± 169.4a

Note: Values are means + standard errors ($n = 3$). Means with the same lowercase letters are not significant different ($p < 0.05$) between N application treatments in spring mung bean or summer sweet maize season, respectively. N0, no N for spring mung bean and summer sweet maize; N1, 60 kg·ha⁻¹ N for spring mung bean and 60 kg·ha⁻¹ N for summer sweet maize; N2, 60 kg·ha⁻¹ N for spring mung bean and 120 kg·ha⁻¹ N for summer sweet maize; and N3, 60 kg·ha⁻¹ N for spring mung bean and 180 kg·ha⁻¹ N for summer sweet maize.