

Table S1. Comparison of urea, SCPU, and other SRFs in practical application.

Sample	Source	Preparation price (RMB·Kg ⁻¹)	Total cost of planting season (RMB·hm ⁻¹)
Urea	Sinopharm Chemical reagent Co., Ltd.	12	RMB 8,400 (urea needs to be applied three times, with a total urea requirement of about RMB 5,400 and a total labor cost of RMB 3,000).
Slow-release urea fertilizer with water retention and photosensitivity properties (SCPU)	This research	85	RMB 13,750 (urea needs to be applied one time, with a total urea requirement of about RMB 12,750 and a total labor cost of RMB 1,000).
Slow-release urea fertilizer with water retention (Starch phosphate carbamate hydrogel)	G. Dong et al. [41]	226	RMB 34,900 (urea needs to be applied one time, with a total urea requirement of about RMB 33,900 and a total labor cost of RMB 1,000).