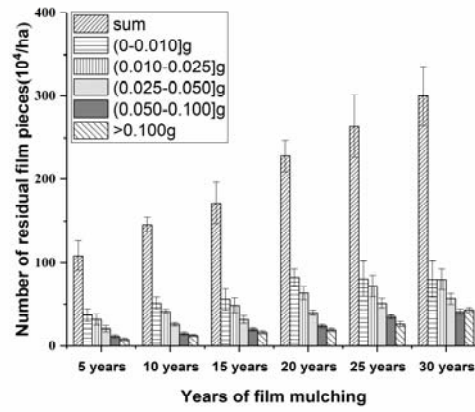
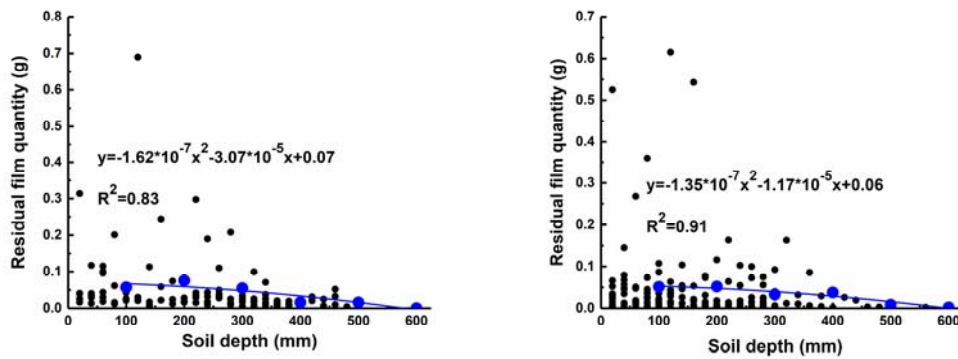




**Fig. S1.** Plastic film residue sampling process.

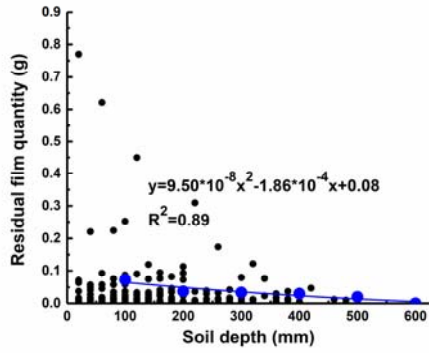


**Fig. S2.** The weight distribution of film debris in soils with different mulching times

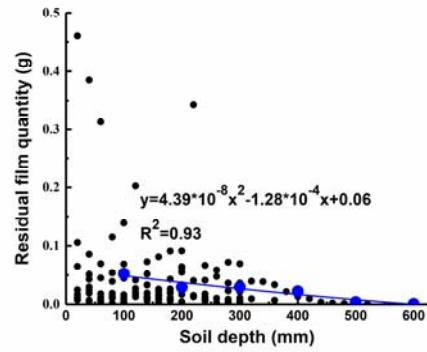


a

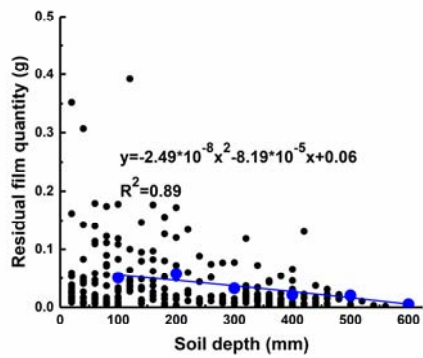
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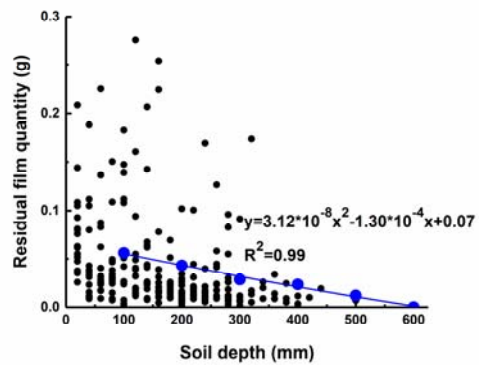
c



d



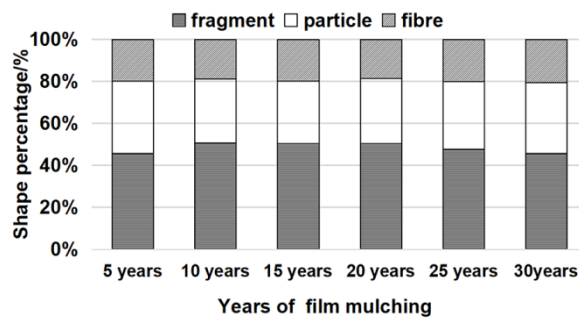
e



f

**Fig. S3.**The weight distribution of film debris in soils with different mulching times.

From a to f, it represents the weight distribution characteristics of film debris in farmland soil with film of 5 years, 10 years, 15 years, 20 years, 25 years and 30 years, respectively.



**Fig. S4.**The distribution of different shape MPs with varying mulching times.