

عنوان مقاله:

Soil weed seedbank response to tillage types and crop residue mulches in different cropping patterns

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خلاصه مقاله:

The composition of weed species and the distribution of weed seeds in the soil profile vary significantly and closely correlated to the previous cropping system. Information on the effect of tillage types, crop residue mulching and crop rotation on the soil weed seedbank is a useful tool for sustainable weed management in conservation agriculture (CA). With the view to studying the trend of weed seedbank in CA, a net-house experiment was conducted at the Department of Agronomy, Bangladesh Agricultural University during January – December, ۲۰۱۶. Soil samplings were done at ۰ – ۱۵ cm depth from four different sites after the end of CA trials at Mymensingh and Baliaknadi during ۲۰۱۲ – ۲۰۱۵ and Durgapur and Godagari in ۲۰۱۰-۲۰۱۵, in Bangladesh. At Mymensingh, conventional tillage (CT) and strip tillage (ST), while at Durgapur and Godagari, additional bed planting (BP) were practiced. On the other hand, at Baliakandi additional Zero tillage (ZT) was included. At all sites ۲۰% and ۴۰ – ۵۰% of standing mulches of previous crops were applied. A total of ۲۹۰ samples replicated four times were placed in individual trays following a completely randomized design. The year-round headcount of emerged weed revealed that the smallest size of weed seedbank in terms of weed species composition and weed density was found in ST followed by CT, BP, and ZT with ۴۰ – ۵۰% crop mulch than ۲۰% mulch. The ST, BP, and ZT produced a higher number of perennials weeds than annual weeds, but opposite in CT. Based on the results, it could be concluded that the continuous practice of ST with ۴۰ – ۵۰% residue mulch declined the size of weed seedbank with the proliferation of perennial weeds. Weed seedbank size in ST is even smaller than BP and ZT

کلمات کلیدی:

Bed planting Conservation Agriculture, Crop mulches, Strip tillage, Weed seedbank

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