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[1] 孟祥海. 不同施肥模式对坡耕地土壤物理性状、大豆农艺性状及产量的影响[J]. 大豆科学, 2013, 32(04):517-520.  
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## 不同施肥模式对坡耕地土壤物理性状、大豆农艺性状及产量的影响

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Title: Effect of Different Fertilization Mode on Soil Physical Properties, Agronomic Characters and Yield of Soybean in Slope Cropland

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摘要: ?针对丘陵区坡耕地土壤养分流失严重、施肥不合理和作物产量较低的现象,采取增施有机无机复混肥、土壤改良颗粒剂及地表覆膜等措施,共设置5个施肥模式,研究不同施肥模式对大豆田土壤物理性状、大豆农艺性状及产量的影响,从而筛选出坡耕地增产效果最佳施肥模式。结果表明:覆膜措施有效减少了土壤含水量的波动,非覆膜施肥模式的含水量由表土至耕层底部逐渐增高,且0~15 cm变化较为明显,在生育后期有机无机复混肥+土壤颗粒改良剂+覆膜施肥模式的耕层15~20 cm土壤含水量明显高于其它施肥模式;与对照相比,各施肥模式单株荚数、单株粒数和单株粒重均有升高趋势,瘦荚率和虫粒率降低趋势更明显;有机无机复混肥+土壤颗粒改良剂+地面覆盖较其他施肥模式分别增产77.55%、43.52%、40.07%和29.39%,且均达到差异极显著水平。因此,有机无机复混肥+土壤颗粒改良剂+覆膜施肥模式可以有效改善坡耕地土壤物理性状,提高大豆产量。

Abstract: ?According to the phenomenon of serious soil nutrient loss, unreasonable fertilization and lower crop yield in hilly slope cropland, some measures including application of organic inorganic compound fertilizer(OICF), soil improvement granules(SIG) and film mulch(FM) were taken to design five fertilization modes to clarify the effect of the different fertilization mode on soil physical properties, agronomic characters and yield of soybean and to select the best fertilization mode. FM effectively reduced the fluctuations of the soil moisture. Soil moisture of non-FM plus OICF increased gradually from surface to bottom of arable layer and changes were relatively obvious at 0-15 cm. Soil moisture at 15-20 cm layer of OICF+SIG+FM was obviously higher than other fertilization modes in the later growth stage of soybean. Compared with no fertilization control, pods per plant, seeds per plant and seeds weight per plant of each fertilization mode were increased, while flat pod rate and insect seed rate reduced significantly. Seed yield of OICF+SIG+FM significantly increased by 77.55%, 43.52%, 40.07% and 29.39%, respectively, compared with other fertilization modes. Therefore, applying organic inorganic compound fertilizer and soil improvement granules combined with film mulching could improve soil physical properties of hilly slope cropland effectively, and enhance soybean yield.

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