Special Issue

Improving Fertilizer Use Efficiency

Message from the Guest Editor

Nitrogen, phosphorus, and potassium are essential nutrients for crops and are applied as chemical fertilizers to maintain soil fertility and safeguard crop growth. Under the modern agricultural system, about 50% to 70% of fertilizers applied in the field are lost to the environment, and only a small portion of nutrients are absorbed by plants. Further, the in-season utilization rate of fertilizers does not exceed 50%, which not only increases the cost of fertilizers, but also seriously pollutes the environment. Therefore, improving fertilizer utilization is of great significance for sustainable agricultural development. Excessive fertilizer application, the underutilization of crop yield potential, and nutrient loss from farmland are the main reasons for low fertilizer utilization. Our issue aims to reveal the mechanisms of these studies on fertilizer use efficiency and to elucidate the combined effects of fertilizer application on crops, soils, and the environment. We welcome high-quality interdisciplinary research in crop science to resolve the conflict between fertilizer application, crop yield, and soil quality.

Guest Editor

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