

在线混药式变量喷雾系统设计与试验 Key Technology of Variable-rate Spraying System of Online Mixing Pesticide

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关键词: 精细农业 变量喷雾 在线混药 流量计 流量控制阀

摘要: 为实现在线混药式变量喷雾技术, 设计了药、水独立存放混药装置, 差压式流量计, 流量控制阀, 以及相应的控制系统。应用该系统对药、水分别进行流量计量和对药流量控制, 达到变量喷雾的目标。试验结果表明, 流量计误差在 $\pm 2.0\%$ 以内, 药流量控制误差在 $\pm 3.0\%$ 以内。 This paper developed a mixing pesticide device, a differential pressure flow meter, and a flow metering valve, with the corresponding control system, to achieve variable rate spraying based on online mixing pesticide. Variable rate spraying was implemented by using the system to measure flow of water and pesticide, and control chemical flow in real time. The experimental results show that the errors of the flow meter are within  $\pm 2.0\%$ , and the controlling errors of chemical flow are within  $\pm 3.0\%$  in this system.

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