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前植物生产层

甘肃陇南冬小麦条锈病气象等级预测模型的建立与应用

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摘要： 甘肃陇南地区是中国小麦（Triticum aestivum）条锈病菌核心越夏区，其越夏菌量对中国中东部来年春季小麦条锈病发生发展程度影响很大。本研究利用陇南冬麦区14个代表站点1990-2007年的气象资料和条锈病资料，依病田率将气象条件划分为5个等级，采用逐步回归方法建立了小麦条锈病气象等级预测模型。经历史回代检验，预测模型误差达2个等级的占12%，完全准确的为25%；对于实际病害等级为1~2级的气象等级拟合误差达2个等级的为23%，其他都在1个等级之内，预测效果良好。

关键词： 小麦条锈病 发生发展 气象预测

A prediction model of meteorological grades on winter wheat stripe rust in southern of Gansu

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Abstract: Southern of Gansu Province is the core surviving area of stripe rust bacteria （Puccinia striiformis）of winter wheat （Triticum aestivum）in summer. Amount of bacteria at the end of summer is a great influence on the development of stripe rust in next spring in central and eastern of China. Based on the meteorological and wheat stripe rust data of 14 representative stations in the winter wheat planting region of southern Gansu Province from 1990 to 2007, meteorological conditions were divided into 5 level according to disease field rate; and a forecast model of meteorological level on the wheat stripe rust was established by using stepwise regression method. Through the historical regression test, the error of the forecast model with 2 levels was 12% and the completed right prediction was 25%. The fitting errors up to 2 levels for the actual disease grade 1-2 was 23%, while others were all in one level. The prediction effect of forecast model was good. The model is extremely important to predict the development of wheat stripe rust and to improve wheat yield in central and eastern of China.

Keywords: wheat stripe rust； occurrence and development； meteorological forecasting