

不同地形植烟土壤的合理取样数量分析

张云贵¹, 刘青丽¹, 李志宏¹, 蒋卫², 王树会³, 张恒⁴, 夏海乾⁴, 冯晓芽², 夏昊¹,
梁永江^{*2}, 霍沁建²

1. 中国农业科学院农业资源与农业区划研究所, 北京市海淀区中关村南大街12号 100081

2. 贵州省烟草公司遵义市公司, 贵州省遵义市汇川区人民路341号 563000

3. 云南省烟草科学研究所, 昆明市五华区科医路41号 650051

4. 贵州省烟草科学研究所, 贵阳市观山湖区龙滩坝路29号 550081

摘要:地形影响着精准施肥网格取样的间距,在烤烟高量磷、钾肥料投入背景下,为了确定不同地形植烟土壤的取样密度,分别在平原、开阔坝子地、狭窄坝子地、缓坡地4种主要地形的植烟土壤上进行了50 m×50 m网格取样和土壤速效养分测试。结果表明:采用Cochran公式,在置信水平90%,允许误差15%时,平原、坝子地、缓坡地的单样品代表面积分别为1.92, 1.01~1.56和0.73 hm²;采用地统计学方法得出的平原、坝子地和缓坡地精准养分管理最大网格取样间距分别为234.0, 134.4~177.5和58.2 m。因此,地形条件由简单到复杂,取样密度应逐渐增加。

关键词:植烟土壤;土壤养分;地形;取样数量;空间变异

中图分类号:S572.061 **文献标志码:**A **文章编号:**1002-0861(2015)03-0008-06

DOI:10.16135/j.issn1002-0861.20150302

Rational Sampling Density of Tobacco-planting Soil Dependent on Different Topography

ZHANG Yungui¹, LIU Qingli¹, LI Zhihong¹, JIANG Wei², WANG Shuhui³, ZHANG Heng⁴, XIA Haiqian⁴, FENG Xiaoya², XIA Hao¹, LIANG Yongjiang², and HUO Qinjian²

1. Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences, Beijing 100081, China

2. Zunyi Branch of Guizhou Provincial Tobacco Company, Zunyi 563000, Guizhou, China

3. Yunnan Tobacco Science Research Institute, Kunming 650051, China

4. Guizhou Tobacco Science Research Institute, Guiyang 550081, China

Abstract: Topography influences the density of soil sampling points for precise fertilization. In the case of high phosphorus and potassium fertilization for flue-cured tobacco, the soils in areas of plain, broad valley, narrow valley and gentle slope were sampled by 50 m×50 m grids and the available nutrients in soil samples were tested. The results showed that by Cochran formula, individual sample for plain, valley and gentle slope represented an area of 1.92, 1.01-1.56 and 0.73 ha, respectively at a confidence level of 90% and a relative error of 15%; by geostatistical method, the maximum sampling space for precise nutrient management were 234.0, 134.4-177.5 and 58.2 m for plain, valley and gentle slope, respectively. It indicated that sampling density

收稿日期:2014-07-17 **修回日期:**2014-12-02

基金项目:中国烟草总公司科技重点项目“烟草精准施肥关键技术与示范”(110200902062),“清香型特色优质烟叶开发”(TS-03-20110021)和贵州省烟草公司遵义市公司科技项目“遵义市烟草精准施肥关键技术与示范”(2011-02)。

作者简介:张云贵(1967—),博士,副研究员,主要从事养分管理研究。E-mail: zhangyungui@caas.cn; *通讯作者:梁永江, E-mail: zylyj@vip.163.com

引文格式:张云贵,刘青丽,李志宏,等.不同地形植烟土壤的合理取样数量分析[J].烟草科技,2015,48(3):8-13.

ZHANG Yungui, LIU Qingli, LI Zhihong, et al. Rational sampling density of tobacco-planting soil dependent on different topography[J]. Tobacco Science & Technology, 2015, 48(3):8-13.