

全国中文核心期刊
中国科技核心期刊
中国农业核心期刊
RCCSE中国核心学术期刊
中国科学引文数据库 (CSCD) 期刊
CAB International 收录期刊
美国《生物学文摘》收录期刊
美国《化学文摘》(CA) 收录期刊

首页 (/) 期刊介绍
(/Corp/10.aspx)

编委会

投稿须知

期刊订阅

广告合作

联系我们

返回主页

(/Corp/3600.aspx)(/Corp/5006.aspx)(/Corp/50.aspx)(http://www.haasep.cn/)

«上一篇 (DArticle.aspx?
type=view&id=200905024)
下一篇 (DArticle.aspx?
type=view&id=200905026)



PDF下载 (pdfdown.aspx?)

Sid=200905025)

+分享

(http://www.jiathis.com/share?)

uid=1541069)



微信公众号: 大豆科学

[1]王海泉,王英,周宝库,等.行间覆膜栽培对大豆根际土壤微生物区系和土壤肥力的影响[J].大豆科学,2009,28(05):875-878.
[doi:10.11861/j.issn.1000-9841.2009.05.0875]

WANG Hai-quan,WANG Ying,ZHOU Bao-ku,et al.Effects of Soil Microorganism Regions and Soil Fertility of Soybean Root System with Film Mulching between Rows[J].Soybean Science,2009,28(05):875-878.[doi:10.11861/j.issn.1000-9841.2009.05.0875]

点击复制

行间覆膜栽培对大豆根际土壤微生物区系和土壤肥力的影响

《大豆科学》 [ISSN:1000-9841 /CN:23-1227/S] 卷: 第28卷 期数: 2009年05期 页码: 875-878 栏目:
出版日期: 2009-10-25

Title: Effects of Soil Microorganism Regions and Soil Fertility of Soybean Root System with Film Mulching between Rows

文章编号: 1000-9841(2009)05-0875-04

作者: 王海泉¹ (KeySearch.aspx?type=Name&Sel=王海泉); 王英³ (KeySearch.aspx?type=Name&Sel=王英); 周宝库³ (KeySearch.aspx?type=Name&Sel=周宝库); 李柱刚¹ (KeySearch.aspx?type=Name&Sel=李柱刚); 何云霞¹ (KeySearch.aspx?type=Name&Sel=何云霞); 满为群² (KeySearch.aspx?type=Name&Sel=满为群); 陈怡² (KeySearch.aspx?type=Name&Sel=陈怡); 杜维广² (KeySearch.aspx?type=Name&Sel=杜维广)

1. 沈阳农业大学 农学院, 辽宁 沈阳 100161;
2. 黑龙江省农业科学院 大豆研究所, 黑龙江 哈尔滨 150086;
3. 黑龙江省农业科学院 土肥所, 黑龙江 哈尔滨 150086;
4. 黑龙江省农业科学院 生物技术研究所, 黑龙江 哈尔滨 150086

Author(s): WANG Hai-quan¹ (KeySearch.aspx?type=Name&Sel=WANG Hai-quan); WANG Ying³ (KeySearch.aspx?type=Name&Sel=WANG Ying); ZHOU Bao-ku³ (KeySearch.aspx?type=Name&Sel=ZHOU Bao-ku); LI Zhu-gang¹ (KeySearch.aspx?type=Name&Sel=LI Zhu-gang); HE Yun-xia¹ (KeySearch.aspx?type=Name&Sel=HE Yun-xia); MAN Wei-qun² (KeySearch.aspx?type=Name&Sel=MAN Wei-qun); CHEN Yi² (KeySearch.aspx?type=Name&Sel=CHEN Yi); DU Wei-guang² (KeySearch.aspx?type=Name&Sel=DU Wei-guang)

1. Agronomy College of Shenyang Agriculture University, Shenyang 100161, Liaoning;
2. Soybean Institute of Heilongjiang Academy of Agricultural Sciences, Harbin 150086, Heilongjiang;
3. Soil and Fertility Institute of Heilongjiang Academy of Agricultural Sciences, Harbin 150086, Heilongjiang;
4. Biology Institute of Heilongjiang Academy of Agricultural Sciences, Harbin 150086, Heilongjiang, China

关键词: 大豆 (KeySearch.aspx?type=Keyword&Sel=大豆); 行间覆膜 (KeySearch.aspx?type=Keyword&Sel=行间覆膜); 微生物区系 (KeySearch.aspx?type=Keyword&Sel=微生物区系); 土壤肥力 (KeySearch.aspx?type=Keyword&Sel=土壤肥力)

Keywords: Soybean (KeySearch.aspx?type=Keyword&Sel=Soybean); Film mulching between rows (KeySearch.aspx?type=Keyword&Sel=Film mulching between rows); Microorganism regions (KeySearch.aspx?type=Keyword&Sel=Microorganism regions); Soil fertility (KeySearch.aspx?type=Keyword&Sel=Soil fertility)

分类号: S565.1

DOI: 10.11861/j.issn.1000-9841.2009.05.0875 (http://dx.doi.org/10.11861/j.issn.1000-9841.2009.05.0875)

文献标志码: A

摘要: 为了解大豆行间覆膜栽培增产的产量生理基础,以高光效大豆品种黑农40为材料,进行了行间覆膜和不覆膜处理,对行间覆膜栽培大豆根际土壤微生物区系和土壤肥力进行了研究。结果表明:行间覆膜并没有改变土壤根际微生物主要的三大类群种类的变化,仍是细菌总量最高,其次为放线菌、真菌数量最少,覆膜比不覆膜增加了大豆根际土壤微生物总量,细菌、放线菌、真菌增量高峰期分别出现在R1、R2、R1时期,总数量高峰出现在V2期;覆膜比不覆膜增加了大豆根际土壤微生物生物碳含量,覆膜栽培大豆各生育时期速率N、速效P、速效K的含量高于不覆膜(CK)。因此,行间覆膜栽培增产的产量生理基础之一,是提高大豆根际土壤微生物数量和生物碳的含量,促进了土壤养分转化,促进了大豆生长发育,提高了大豆群体光能利用效率,导致提高了产量。

Abstract: To understand the physiological bases of soybean yield with film mulching between rows, the soil microorganism regions and soil fertility of soybean root system with film mulching between rows for Heinnong 40 were researched compared with the control. Results suggested that the amount of three major soil microorganism didn't change under film mulching between rows, with bacteria the most, fungi the least. Film mulching between rows increased the total numbers of microorganism and the increments of bacteria, actinomycetes and fungi appeared fastigium at R1, R2 and R1. The fastigium of total numbers appeared at V2. Film mulching increased the content of biology carbon of soil microorganism regions. Film mulching also increased the contents of N, P and K which can be used by roots compared with the control at different soybean growth stage. Thus, we considered that the increasing contents of the numbers of soil microorganism and biology carbon are one of the physiological bases of soybean high-yielding with film mulching between rows, which can advance the

transformation of soil nutrient, improve the growth of soybean, increase the using efficiency of the light energy of soybean population and enhance the final yield.

参考文献/References:

- [1]王海泉, 栾晓燕, 满为群, 等. 覆膜栽培大豆的土壤生态研究进展[J]. 大豆科学, 2009, (2):337-340. (Wang H Q, Luan X Y, Man W Q, et al. Research progress of the soil ecological effects of soybean with film mulching cultivation[J]. Soybean Science, 2009, (2):337-340.)
- [2]张玉先, 郑殿峰, 王海泽. 大豆覆膜技术研究与应:1对地温、土壤水分、生育进程及产量影响[J]. 黑龙江八一农垦大学学报, 2000, 12(2):17-20. (Zhang Y X, Zheng D F, Wang H Z. Studies and application of soybean film mulching[J]. Heilongjiang August First Land Reclamation University, 2000, 12(2):17-20.)
- [3]李丽君, 高聚林, 罗军, 等. 不同覆膜方式大豆根系空间分布的影响[J]. 大豆科学, 2007, 26(5):687-690. (Li L J, Gao J L, Luo J, et al. Effect of different film mulching techniques on the dimensional distribution of soybean root system [J]. Soybean Science, 2007, 26(5):687-690.)
- [4]王海泉, 陈怡, 满为群, 等. 大豆行间覆膜栽培技术增产效果及群体生理研究[J]. 大豆科学, 2007, 26(4):538-543. (Wang H Q, Chen Y, Man W Q, et al. Effect of covering plastic film technique in furrow on yield and population physiology in soybean[J]. Soybean Science, 2007, 26(4):538-543.)
- [5]Fehr W R, Caviness C E. 大豆不同时期的发育[C]. 美国农业和家庭经济专家研讨会, 1977, 美国. (Fehr W R, C E Caviness. Stages of soybean development[C]. Agric and Home Economics Exp. Stn. Spec. Rep., 1977, USA.)
- [6]许光辉. 土壤微生物分析方法手册[M]. 北京, 农业出版社, 1986. (Xu Y H. Analyzing methods manual of soil microorganism [M]. Beijing, Agricultural publishing company, 1986.)
- [7]张黎明, 冯亚敏, 朱铁军, 等. 大豆根系土壤中微生物的初步研究[J]. 吉林林业科技, 32(1):11-14. (Zhang L M, Feng Y M, Zhu T J, et al. A preliminary study on soil microorganism in soybean root system[J]. Jilin Forester Science and Technology, 2003, 32(1):11-14.)
- [8]刘金波, 许艳丽. 我国连作大豆土壤微生物研究现状[J]. 中国油料作物学报, 2008, 30(1):132-136. (Lu J B, Xu Y L. Current research of soil microbial of successive soybean cropping in China[J]. Chinese Journal of Oil Crop Sciences, 2008, 30(1):132-136.)
- [9]汪景宽, 张继宏, 须湘, 等. 地膜覆盖对土壤肥力影响的研究[J]. 沈阳农业大学学报, 1992, 23(专辑)(Wang J K, Zhang J H, Xu X, et al. Researches of the effects of film-mulching for soil fertility[J]. Journal of Shenyang Agricultural University, 1992, 23(special).)
- [10]李丽君, 高聚林, 武向良, 等. 不同覆膜方式对大豆田水分动态及利用效率的影响[J]. 大豆科学, 2008, 27(2):262-266. (Li L J, Gao J L, Wu X L, et al. Effects of different film mulching techniques on soil water movement and WUE in soybean field[J]. Soybean Science, 2008, 27(2):262-266.)

相似文献/References:

- [1]刘章雄, 李卫东, 孙石, 等. 1983~2010年北京大豆育成品种的亲本地理来源及其遗传贡献[J]. (article.aspx?type=view&id=201301001) 大豆科学, 2013, 32(01):1. [doi:10.3969/j.issn.1000-9841.2013.01.002]
- LIU Zhang-xiong, LI Wei-dong, SUN Shi, et al. Geographical Sources of Germplasm and Their Nuclear Contribution to Soybean Cultivars Released during 1983 to 2010 in Beijing[J]. Soybean Science, 2013, 32(05):1. [doi:10.3969/j.issn.1000-9841.2013.01.002]
- [2]李彩云, 余永亮, 杨红旗, 等. 大豆脂转运蛋白基因GmLTP3的特征分析[J]. (article.aspx?type=view&id=201301002) 大豆科学, 2013, 32(01):8. [doi:10.3969/j.issn.1000-9841.2013.01.003]
- LI Cai-yun, YU Yong-liang, YANG Hong-qi, et al. Characteristics of a Lipid-transfer Protein Gene GmLTP3 in Glycine max[J]. Soybean Science, 2013, 32(05):8. [doi:10.3969/j.issn.1000-9841.2013.01.003]
- [3]王明霞, 崔晓霞, 薛晨晨, 等. 大豆耐盐基因GmHAL3a的克隆及RNAi载体的构建[J]. (article.aspx?type=view&id=201301003) 大豆科学, 2013, 32(01):12. [doi:10.3969/j.issn.1000-9841.2013.01.004]
- WANG Ming-xia, CUI Xiao-xia, XUE Chen-chen, et al. Cloning of Halotolerance 3 Gene and Construction of Its RNAi Vector in Soybean (Glycine max) [J]. Soybean Science, 2013, 32(05):12. [doi:10.3969/j.issn.1000-9841.2013.01.004]
- [4]张春宝, 李玉秋, 彭宝, 等. 线粒体ISSR与SCAR标记鉴定大豆细胞质雄性不育系与保持系[J]. (article.aspx?type=view&id=201301005) 大豆科学, 2013, 32(01):19. [doi:10.3969/j.issn.1000-9841.2013.01.005]
- ZHANG Chun-bao, LI Yu-qiu, PENG Bao, et al. Identification of Soybean Cytoplasmic Male Sterile Line and Maintainer Line with Mitochondrial ISSR and SCAR Markers[J]. Soybean Science, 2013, 32(05):19. [doi:10.3969/j.issn.1000-9841.2013.01.005]
- [5]卢清瑶, 赵琳, 李冬梅, 等. RAV基因对拟南芥和豆不定芽再生的影响[J]. (article.aspx?type=view&id=201301006) 大豆科学, 2013, 32(01):23. [doi:10.3969/j.issn.1000-9841.2013.01.006]
- LU Qing-yao, ZHAO Lin, LI Dong-mei, et al. Effects of RAV gene on Shoot Regeneration of Arabidopsis and Soybean [J]. Soybean Science, 2013, 32(05):23. [doi:10.3969/j.issn.1000-9841.2013.01.006]
- [6]杜景红, 刘丽君. 大豆fad3c基因沉默载体的构建[J]. (article.aspx?type=view&id=201301007) 大豆科学, 2013, 32(01):28. [doi:10.3969/j.issn.1000-9841.2013.01.007]
- DU Jing-hong, LIU Li-jun. Construction of fad3c Gene Silencing Vector in Soybean[J]. Soybean Science, 2013, 32(05):28. [doi:10.3969/j.issn.1000-9841.2013.01.007]
- [7]张力伟, 樊颖伦, 牛腾飞, 等. 大豆“冀黄13”突变体筛选及突变体库的建立[J]. (article.aspx?type=view&id=201301008) 大豆科学, 2013, 32(01):33. [doi:10.3969/j.issn.1000-9841.2013.01.008]
- ZHANG Li-wei, FAN Ying-lun, NIU Teng-fei, et al. Screening of Mutants and Construction of Mutant Population for Soybean Cultivar "Jihuang13" [J]. Soybean Science, 2013, 32(05):33. [doi:10.3969/j.issn.1000-9841.2013.01.008]
- [8]盖江南, 张彬彬, 吴瑶, 等. 大豆不定胚悬浮培养基因型筛选及基因枪遗传转化的研究[J]. (article.aspx?type=view&id=201301009) 大豆科学, 2013, 32(01):38. [doi:10.3969/j.issn.1000-9841.2013.01.009]
- GAI Jiang-nan, ZHANG Bin-bin, WU Yao, et al. Screening of Soybean Genotypes Suitable for Suspension Culture with Adventitious Embryos and Genetic Transformation by Particle Bombardment[J]. Soybean Science, 2013, 32(05):38. [doi:10.3969/j.issn.1000-9841.2013.01.009]
- [9]王鹏飞, 刘丽君, 唐晓飞, 等. 适于体细胞胚发生的大豆基因型筛选[J]. (article.aspx?type=view&id=201301010) 大豆科学, 2013, 32(01):43. [doi:10.3969/j.issn.1000-9841.2013.01.010]
- WANG Peng-fei, LIU Li-jun, TANG Xiao-fei, et al. Screening of Soybean Genotypes Suitable for Somatic Embryogenesis [J]. Soybean Science, 2013, 32(05):43. [doi:10.3969/j.issn.1000-9841.2013.01.010]
- [10]刘德兴, 年海, 杨存义, 等. 耐酸铝大豆品种资源的筛选与鉴定[J]. (article.aspx?type=view&id=201301011) 大豆科学, 2013, 32(01):46. [doi:10.3969/j.issn.1000-9841.2013.01.011]
- LIU De-xing, NIAN Hai, YANG Cun-yi, et al. Screening and Identifying Soybean Germplasm Tolerant to Acid Aluminum [J]. Soybean Science, 2013, 32(05):46. [doi:10.3969/j.issn.1000-9841.2013.01.011]
- [11]王海泉, 陈怡, 满为群, 等. 大豆行间覆膜栽培技术增产效果及群体生理研究[J]. (article.aspx?type=view&id=200704017) 大豆科学, 2007, 26(04):538. [doi:10.3969/j.issn.1000-9841.2007.04.017]
- WANG Hai-quan, CHEN Yi, MAN Wei-qun, et al. EFFECT OF COVERING PLASTIC FILM TECHNIQUE IN FURROW ON YIELD AND POPULATION PHYSIOLOGY IN SOYBEAN[J]. Soybean Science, 2007, 26(05):538. [doi:10.3969/j.issn.1000-9841.2007.04.017]

备注/Memo 基金项目: 黑龙江省青年自然科学基金(QC06C082)。

作者简介: 王海泉(1971-), 男, 副研究员, 在读博士生, 现从事大豆栽培生理研究。

通讯作者: 杜维广, 研究员. E-mail: weiguangdu@126.com.

更新日期/Last Update: 2014-09-18

版权所有 © 2012 黑龙江省农科院信息中心
黑ICP备11000329号-2