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[1]郑雅楠,段玉玺,孙晶双,等.pH值对大豆胞囊线虫孵化影响研究[J].大豆科学,2009,28(02):275-277.[doi:10.11861/j.issn.1000-9841.2009.02.0275]
ZHENG Ya-nan,DUAN Yu-xi,SUN Jing-shuang,et al.Effect of pH Values on Hatching of Soybean Cyst Nematode [J].Soybean Science,2009,28(02):275-277.[doi:10.11861/j.issn.1000-9841.2009.02.0275]

点击复制

pH值对大豆胞囊线虫孵化影响研究

《大豆科学》 [ISSN:1000-9841 /CN:23-1227/S] 卷: 第28卷 期数: 2009年02期 页码: 275-277 栏目:
出版日期: 2009-04-25

Title: Effect of pH Values on Hatching of Soybean Cyst Nematode

文章编号: 1000-9841(2009)02-0275-03

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关键词: 大豆胞囊线虫 (KeySearch.aspx?type=Keyword&Sel=大豆胞囊线虫); pH (KeySearch.aspx?type=Keyword&Sel=pH); 孵化 (KeySearch.aspx?type=Keyword&Sel=孵化); 刺激 (KeySearch.aspx?type=Keyword&Sel=刺激); 抑制 (KeySearch.aspx?type=Keyword&Sel=抑制)

Keywords: Heterodera glycines (KeySearch.aspx?type=Keyword&Sel=Heterodera glycines); pH (KeySearch.aspx?type=Keyword&Sel=pH); Hatch (KeySearch.aspx?type=Keyword&Sel=Hatch); Stimulate (KeySearch.aspx?type=Keyword&Sel=Stimulate); Inhibit (KeySearch.aspx?type=Keyword&Sel=Inhibit)

分类号: S565.1

DOI: 10.11861/j.issn.1000-9841.2009.02.0275 (http://dx.doi.org/10.11861/j.issn.1000-9841.2009.02.0275)

文献标志码: A

摘要: 大豆胞囊线虫(Heterodera glycines)病是大豆生产中的主要病害,孵化是其生活史中的重要环节,为探索大豆胞囊线虫卵孵化的适宜pH条件,测试了5种酸(硫酸、盐酸、磷酸、钼酸和乙酸),2种碱(氢氧化钠、氢氧化钾)在不同的pH条件下对大豆胞囊线虫卵孵化的影响。结果表明:酸性处理中,pH为4.0、4.5、5.0的硫酸,5.0、5.5、6.0的钼酸及6.0的磷酸对SCN卵的孵化表现刺激作用;碱性处理中,pH为9.0氢氧化钾和8.0、8.5、9.0的氢氧化钠对SCN卵的孵化存在刺激作用,其余处理表现抑制作用。在刺激卵孵化的处理中,pH为5.0的硫酸和9.0氢氧化钾校正孵化率相对较高,分别为51.00%和114.86%,孵化持续时间分别为14.33和20.00 d。因此,最适宜大豆胞囊线虫孵化的酸性条件为pH 5.0的硫酸,碱性条件为pH 9.0的氢氧化钾。

Abstract: Soybean cyst nematode is one of the major diseases affecting soybean production, and hatching is an important stage in its life circle. In order to research the most suitable pH values to hatching of soybean cyst nematode, the effects of five kinds of acids and two alkalis in different pH value on eggs hatching of Heterodera glycines were tested in laboratory. The results showed that: H₂SO₄ of pH 4.0, 4.5, 5.0, H₂MoO₄ of pH 5.0, 5.5, 6.0, NaOH of pH 8.0, 8.5, 9.0, pH 6.0 H₃PO₄ and pH 9.0 KOH stimulated hatching of SCN, other treatments inhibited hatching of SCN. Hatching rate of pH 5.0 H₂SO₄ and pH 9.0 KOH treatments were higher than other treatments. Their corrected hatching rates are 51.00% and 114.86%, incubation times are 14.33 and 20.00 days respectively. Thus, pH 5.0 H₂SO₄ and pH 9.0 KOH are the most suitable acidic and alkaline pH values respectively.

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备注/Memo 基金项目: 现代大豆产业技术体系资助项目。

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更新日期/Last Update: 2014-10-03