添加微生物菌剂对牛粪高温堆肥腐熟的影响

Effect of inoculating microbes on cattle manure composting with high temperature

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中文摘要：

通过向堆肥中添加微生物菌剂和腐熟堆肥研究了其对堆肥腐熟速度的影响。结果表明，添加菌剂和腐熟堆肥在堆制初期均能促进堆体快速升温，较对照提前1～4d到达高温阶段（>50℃），且菌剂添加量越大，升温越快；与对照相比，添加600mg·kg^{-1}菌剂和50g·kg^{-1}腐熟堆肥使高温期（>50℃）延长了3～4d。堆制29d后，添加600 mg·kg^{-1}菌剂和50 g·kg^{-1}腐熟堆肥的处理均较好腐熟，种子发芽指数分别为92.1%和84.4%，其他处理则未达到腐熟。这表明向堆肥中接入一定量的菌剂和腐熟堆肥均可加快堆肥腐熟，缩短堆肥周期。

英文摘要：

The compost test was conducted to study the effect of inoculating microbes and matured compost on cattle manure composting. The results indicated that inoculating microbes and matured compost significantly increased the rising rate of temperature during the earlier stage of composting, which reached the high thermophilic phase (>50℃) earlier 1～4 days compared to the control, and the more the amount of microbes added, the faster the temperature rose. The duration of the composting temperature above 50℃ with inoculating microbes at 600 mg·kg^{-1} and matured compost at 50 g·kg^{-1} was 3～4 days longer than that of the control. The compost with inoculating microbes at 600 mg. kg^{-1} and matured compost at 50 g·kg^{-1} achieved maturity after 29 days, and the seed germination index (GI) reached 92.1% and 84.4%, respectively. However, other treatments did not achieve maturity after 29 days still. Therefore, addition of adequate amount of microbes and matured compost can speed the maturity of the compost and shorten the composting period.

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