

农产品辐照研究·食品科学

小麦籽粒中结合态脱氧雪腐镰刀菌烯醇毒素产生规律研究

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摘要: 为了研究小麦籽粒中结合态脱氧雪腐镰刀菌烯醇(DON)毒素产生规律,以小麦籽粒为原料,采用人工接种禾谷镰刀菌Fg18.7产毒,三氟甲烷磺酸水解后ELISA检测结合态DON。结果表明:15℃、20℃时游离态DON含量均随着培养时间的延长逐渐增加,25℃时游离态DON含量先增加后减少;不同温度下结合态DON含量均随着培养时间的延长逐渐增加,15℃时40天后达到最高含量为129.20ng·g⁻¹。认为禾谷镰刀菌在小麦籽粒中先产生游离态DON,之后游离态DON会与籽粒中某些成分结合产生不可溶的结合态DON。

关键词: 小麦 禾谷镰刀菌 结合态DON

PRODUCTION OF BOUND DEOXYNIVALENOL BY *FUSARIUM GRAMINEARUM* IN WHEAT GRAIN

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Abstract: In this paper, bound Deoxynivalenol (DON) production by *Fusarium graminearum* in wheat grain was evaluated. After being hydrolyzed by trifluoromethanesulfonic acid (TFMSA), bound DON production in wheat grains, which were inoculated artificially with *F. graminearum* 18.7, was determined by ELISA. The results showed that the content of free DON increased gradually with time at 15℃ and 20℃, but it increased maximum and then decreased at 25℃. However, the content of bound DON increased gradually with time at all culture temperatures. And the highest bound DON content was 129.20 ng·g⁻¹ at 15℃ after 40 days. So it can be considered that *F. graminearum* 18.7 initially produced free DON which then was conjugated with compositions in wheat grain to form insoluble bound DON.

Keywords: wheat *Fusarium graminearum* bound DON

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