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内毒素对奶牛繁殖性能的影响及其机制

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Effects of Endotoxin on Reproductive Performance of Dairy Cows

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摘要 内毒素或称脂多糖是革兰氏阴性菌细胞壁的裂解产物。在实际奶牛生产中,特别是规模化的奶牛场,饲料中精料比例过高、养殖环境卫生不理想和热应激严重等问题都会导致奶牛体内内毒素含量增加。内毒素除了可引起奶牛的系统性炎症反应和代谢变化外,还可影响奶牛的繁殖性能。本文着重阐述了内毒素的来源及其对奶牛的性激素、生殖细胞、胚胎及子宫的影响,并就其对繁殖性能的作用机制进行了探讨,为在奶牛生产中提高奶牛的繁殖性能提供参考。

关键词: 内毒素 奶牛 繁殖性能

Abstract: Endotoxin (also called lipopolysaccharide) is a split product of cell walls of Gram-negative bacteria. In dairy production, especially in large-scale dairy farms, feeding high-concentrate diets, unsatisfactory environmental hygiene, severe heat stress and so on can result in an increased amount of endotoxin in cow's body. Endotoxin can cause systemic inflammation and metabolic changes, as well as reduce reproductive performance of dairy cows. This article focused on endotoxin source and the effects of it on sex hormones, germ cells, embryos and uterus of dairy cows and discussed the reproductive performance mechanisms in order to provide references for improving reproductive performance of dairy cows.

Keywords: endotoxin, dairy cows, reproductive performance

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