

Thanittha Srimotesuk 2011: Effects of Aflatoxin Contamination on Large-Seeded Peanut Seed Quality under High Temperature and Humid Climatic Condition.
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Thesis Advisor: Associate Professor Juangjun Duangpatra, Ph.D. 132 pages.

Studies on effects of aflatoxin contamination on the quality of large-seeded peanuts under local high temperature and humid condition were conducted in five peanut cultivars: Tainan 9, the medium seeded peanut and the large seeded, KKU 60, Khon Kaen 6, Kaset 1 and Kasetsart 50. The harvested peanut pods were dried to the moisture content of 9 % or lower by (1) sun drying immediately and thereby resulted in low aflatoxin contamination and (2) sun drying following 8 weeks of air drying thereby resulted in high aflatoxin contamination. Each peanut lot was divided into two portions. The first portion, unshelled dried pod was put in net bags and stored at ambient condition. The second portion, hand shelled seed was put in the plastic sealed containers and stored at controlled storage of 15 °C – 75 % RH for 9 months. Seed quality and aflatoxin contamination were determined at 0 and every 3 months throughout the storage period. It was found that peanut seed quality of low aflatoxin contamination were not different from those that high aflatoxin contaminated seeds. The low and high aflatoxin contaminated peanuts stored at 15 °C – 75 % RH were not different in field emergence and all were higher than 70 %. Field test of those 9 months storage peanuts showed the low and high of aflatoxin contamination were not different in plant height, canopy width, pod yield and seed yield. High aflatoxin contaminated peanut as high as 221.33 ppb stored in sealed container at 15 °C – 75 % RH has 83 % field emergence. It was concluded that high aflatoxin contaminated peanuts as high as 221.33 ppb stored for 9 months could be used as seed for planting.

Student's signature

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