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Postharvest Management in Agriculture

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A S Chandel and R M Kamal



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contrast to a decrease in germinability. Toxigenic strains of *A. flavus* were isolated from both *S. oryzae* and *T. castaneum*.

290 YASIN, M; HANNA, M. 1989. Potassium sorbate as a preservative for high-moisture corn. *Transactions of the ASAE, American Society of Agricultural Engineers*, 32: 1, 280-284, 290; 17 ref.

Shelled maize, initially at 18.7, 24 and 28% m.c., was treated with potassium sorbate, and potassium sorbate plus propylene glycol. The chemical treatment levels used were 0.1, 0.4, 1.0, 1.5 and 2.5% (wet weight basis). The treated and untreated grain were stored without aeration, and with a 0.11 m³ min⁻¹ Mg⁻¹ air flow rate at ambient temp. The treated grain samples were mould-free for 193 d with and without aeration. With aeration even the lower levels of chemical treatment gave the same number of safe storage days for high moisture maize as the higher treatment levels without aeration. Potassium sorbate and potassium sorbate plus propylene glycol extended the safe storage time of even the 28% m.c. grain. There was, however, significant discoloration of the grain and an increase in kernel breakage susceptibility.

BARLEY

Postharvest handling

291 BALA, BK. 1991. Convective heat transfer coefficient of a malt bed. *Journal of Energy, Heat and Mass Transfer*, India: 13.

292 BALA, BK; WOODS, JL. 1991. Physical and thermal properties of malt. *Drying technology (USA)*, 9: 4, 1091-1104.

293 BALA, BK. 1992. Shrinkage of malt bed during drying. *International Agrophysics (Poland). A Quarterly Journal on Physical Properties and Processes Affecting Plant production*, 6: 1-2, 115-117.

294 BALA, BK; WOODS, JL. 1984. Simulation of deep bed malt drying. *Journal of Agricultural Engineering Research*, U.K.: 30: 3.

295 BALA, BK; WOODS, JL. 1992. Thin layer drying models for malt. *Journal of Food Engineering (UK)*, 16.

296 GUPTA, MEERA; ROY, AN. 1987. Effect of certain chemicals on mould flora of barley in storage.

Pesticides, 21: 5, 28-29; 5 ref.

Seed of 2 cultivars was treated after harvest and then stored for 18 months. Of the 3 fungicides, Bavistin [carbendazim] gave the best control of storage fungi while maintaining a high percentage of seed germination. Phosfume [aluminium phosphide] was the best of 3 fumigants and calcium propionate the best of 3 organic acids.

MILLETS

Storage and storage decay

297 EMAYAVARAMBAN, N; RAMABADRAN, R. 1986. Incidence of seed borne fungi of finger millet as influenced by moisture content, storage temperature, relative humidity and storage period. *Seed Research*, 14: 2, 189-196; 12 ref.

Initially only field fungi such as *Drechslera oryzae* [*Cochliobolus miyabeanus*] and *Alternaria* sp. were isolated from finger millet [*Eleusine coracana*] seed. However, after prolonged storage, storage fungi (mainly *Aspergillus* spp.) predominated. Increased storage temp., storage period and RH markedly influenced the change in fungal population.

298 GAMBHIR, SP; KHAIRNAR, DN. 1989. Impact of different liquid media on amylase production by seed moulds of pearl millet (*Pennisetum americanum* (L.) Leeke). *Current Science*, 58: 15, 863-864; 7 ref.

Fungi were isolated from *P. americanum* seeds collected from the field and from storage. Amylase production by the 17 fungi was studied using 3 media. *Aspergillus flavus* and *Curvularia lunata* [*Cochliobolus lunatus*] were highly efficient amylase producers. Starch medium was superior to *P. americanum* flour or glucose media for measurement of amylase production. Details of the agar plate method are described.

299 KAMBLE, MY; SALUNKHE, GN. 1992. Development of storage grain insect *Tribolium castaneum* on grain and flour of pearl millet. *Journal of Maharashtra Agricultural Universities*, 17: 3, 413-414.

300 PANDEY, KN. 1986. Preservation of moist ragi grains with certain mild acids. *Madras Agricultural Journal*, 73: 10, 579-584; 15 ref.

Acetic acid was superior to propionic acid for preserving grains of *Eleusine coracana*. A 3% concn of acetic acid prevented growth and multiplication of all the mycoflora associated with the grains except *Aspergillus*