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### **Sweating of panicoid tropical pasture grass seeds**

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“Sweating”, the practice of holding freshly cut seed heads of tropical pasture grasses in covered heaps for periods of about three days before separating and drying the seed, was investigated. Its course was recorded with seed crops of various cultivars of *Panicum maximum*, *Setaria sphacelata*, *Brachiaria decumbens*, *Paspalum plicatulum* and *Urochloa mosambicensis*. Seed viability, germination, dormancy and storage characteristics were compared with the equivalent properties of seed that had not been sweated. Temperatures inside sweating heaps rose rapidly over the first day to a peak that often exceeded 50 C, probably due to the respiration of the still metabolically active seed. Temperatures then declined, but tended to rise again later as fungal activity increased. Carbon dioxide levels in the internal atmosphere rose as high as about 20% and oxygen tended to be depleted. Sweating hastened abscission, with over 80% of pure seed being detached within 3 days. Seed remaining attached was mostly immature and inferior. Sweated seed was normally of superior quality to seed that had been quickly dried immediately after harvest, but did not differ consistently from unsweated seed that had been kept moist but well-ventilated for three days before active drying was begun. Contrary to common belief, sweating neither broke dormancy nor led to accelerated deterioration in subsequent storage. Sweating conditions are inherently variable and, taken to extremes, may damage seed. For example, deliberate prevention of gas exchange rapidly caused total seed death, as did spontaneous heating to greater than 60 C of unventilated combine-harvested seed. Nevertheless, if conducted with care, sweating provides a valuable alternative to machine-threshing in minimally mechanised or small-scale seed harvesting systems and can be practised without measurable detriment to seed quality.