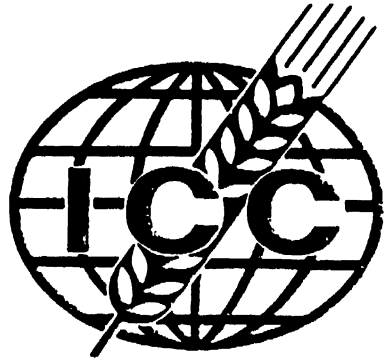


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**4TH QUADRENNIAL SYMPOSIUM**  
**ON**  
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Lausanne/Switzerland, May 26 and 27, 1988

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**8TH INTERNATIONAL CEREAL AND BREAD CONGRESS 1988**

## Dehulling and Milling Characteristics of Some Sorghum Cultivars<sup>1</sup>

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### ABSTRACT

Dehulling and milling characteristics of seven sorghum cultivars having variation in physical grain properties were evaluated using a traditional dehulling method and two laboratory dehulling machines. Recovery was higher in grains dehulled by the laboratory machines as compared to traditional method. Per cent floaters of the grain was negatively associated with dehulled grain recovery. Grits and flours were made by grinding the grain in a Buhler mill and Udy cyclone mill. Grits (particles retained on 355  $\mu\text{m}$  sieve) produced using the Buhler mill ranged from 63.7 to 73.8%. When coarse flour was produced by grinding the grain in a Buhler mill, the percentage of particles passing through 150  $\mu\text{m}$  sieve ranged from 22.2 to 33.8%, and the recovery was higher in soft grain types than in hard grain types. The fine flour fraction obtained by grinding the grain in a Udy mill ranged from 35.7 to 59.8%. Results indicated that soft grain types produce a greater quantity of fine flour.

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Dehulling and milling of sorghum grain are the most important processes for making sorghum foods. Dehulling or pearling is done traditionally by pounding grain in a wooden or stone mortar with a wooden pestle, which is laborious and time consuming. Traditional dehulling is done by sprinkling water to temper the grain and pounding gently to remove the fibrous outer coat. The husk is separated by winnowing. Dehulled grain is dried in the sun for short periods before use. However, mechanical dehulling units are becoming increasingly popular in countries like Botswana, although these are mostly confined to urban areas. High yielding sorghum cultivars introduced in Mali were reported to be soft and hence could not be decorticated (Scheuring et al 1982). Thus the efforts made to increase the sorghum grain yield could be fully realized by the consumers, only with good dehulling quality. Mechanical dehulling is advantageous as it gives more dehulled grain yield with uniform dehulling of grains than traditional dehulling (Reichert and Young 1977). Further, it will reduce the drudgery of processing a large quantity of grain and thus save time.

In India and in several African countries, whole or dehulled sorghum grain is ground in village mills to a coarse flour (Subramanian and Jambunathan 1980, Vogel and Graham 1979) before being used for food preparation. Also the granulation of flour particles is important in blending sorghum flour with wheat flour for bread making. Data available on dry milling characteristics of sorghum are inadequate. Dry milling can vary from simple grinding of whole grain between stones to a complex system of using sophisticated roller mills. Sorghum, being harder than wheat, is more difficult to grind and produces coarse particles (Hoseney et al 1981). Wheat milling technology can be effectively used for grinding sorghum with































