

## Testing sorghum varieties of northern dry zone of Karnataka for flaking

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### ABSTRACT

To make sorghum viable in the food sector, either commonly grown jowar needs to be subjected for standardization of food processing or special grain type varieties with suitable flour texture can directly be made into use for commercialization. Therefore, to identify the suitable variety for good flaking two farmers' varieties of *Rabi* sorghum viz., Atharga Kempu Jola (Kadabina jola with property of high gelatinization of starch), Sakkari Mukkari Jola (Seetani Jola with sweet grain) were tested along with popular roti making variety M35-1. Flakes of these varieties were valued for flake yield and quality parameters. Colour and size of the flakes were observed visually and recorded. It revealed that Atharga Kempu Jola recorded high values for flake length, breadth and volume compared to other varieties. The flakes of Atharga Kempu Jola and M35-1 were elliptical, however, those of Sakkari Mukkari Jola were round in shape. The flakes of Atharga Kempu Jola were thin, with uniform shape and slightly elongated compared to M35-1. It also has attractive red colour unlike off white colour in M35-1 and dull colour in Sakkari Mukkari Jola. Organoleptic evaluation of flakes samples was carried out using five point scale by 25 semi trained panel members. Atharga Kempu Jola flakes scored high compared to other two varieties. Comparatively high grain yield, flake yield (%) and flakes quality recorded by variety Atharga Kempu Jola indicated its suitability for commercial exploitation in flaking.

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Sorghum is one of the crops among millets grown in drylands. It is nutritionally superior to other fine cereals such as rice and wheat and hence it is known as nutritional cereal. It is a sustainable choice under water scarce drought conditions. India is major sorghum growing country, with maximum area and production shared by Maharashtra and Karnataka. In Karnataka, Sorghum is mainly grown in districts of Northern dry zone. *Rabi* sorghum being grown in this area is characterized by excellent grain quality, occupying major share of state's sorghum area and production. To make sorghum viable in the food sector, either commonly grown jowar needs to be subjected for standardization of food processing or special grain type varieties with suitable flour texture can directly be made into use for commercialization.

Traditionally sorghum is consumed in the form of Roti, an unleavened bread. However, farmers of Northern dry zone of Karnataka have identified landrace varieties with distinct grain traits and are growing in their fields since many years. They are identified with unique vernacular names depicting specific food purpose for which they are used. These are Kadabina Jola, Seetani jola, Aralina Jola, Holige Jola, Mudde Jola etc. 'Atharga Kempu Jola' is a landrace variety of Kadabina Jola (with high gelatinization property of starch) collected from farmers' fields of Atharga village of Bijapur District in

Northern Karnataka (AICSIP Annual reports, 2002-03 and 2004-05 of RARS, Bijapur). The panicle and seed coat of this variety is red in colour and hence, farmers call this as Kempu (*i.e.* Red) Jola (Sajjanar *et al.*, 2009). It is suitable for certain traditional food preparations like Kadabu, a steamed product and hence the name Kadabina Jola (Hemalatha *et al.*, 2008). Seeds are medium bold, slightly elliptical, smooth and lustrous. 'Sakkari Mukkari Jola' is a landrace variety of Seetani Jola with sweet grains and is generally being used for preparation of Seetani or hurda (roasted tender grains). 'Sakkari' means sugar and 'mukkari' means to gobble. Dried seeds are round in shape, slightly brown and are small sized. A depression can be observed in the seeds of this variety after drying due to high water content of the seeds. This depression is the distinct characteristic feature of this landrace variety and hence farmers also call this as Kach Kach Jola. M 35-1, a popular variety of *Rabi* sorghum occupied by largest area is a Roti making variety with bold, cream coloured and lustrous seeds. At present the utility of these varieties is restricted for household use especially during festive seasons for traditional food preparations. Their specific grain quality trait needs to be exploited commercially to add value to the grain. The commercialization initiatives will help to realize higher profits by the farmers, when supported by the food