



FARMERS' VARIETY OF SORGHUM IN MATANKARI, NIGER - remains the preferred variety for farmers

"This variety is so ingrained in our food habits that even if the government imposes a variety other than the local Talankoche sorghum seed, the farmers will not apply."

Kaka Namata, farmer, Garin Gouala village, Matankari.

The success story

Sorghum is a major cereal in several tropical regions of the world. Together with millet, it is the main cereal crop in the semi-arid tropics of Africa and Asia. Thanks to a large root system deeply rooted in the soil, sorghum is more tolerant of soil and climate variations than traditional cereals such as rice and maize¹. This makes it a crop of choice in areas where drought and poor soils are limiting factors² and it is thus a staple food in many parts of Africa. Africa is the largest producer of sorghum, with 21.9 million tonnes of annual production, equivalent to 39.04% of world production. Sorghum bicolor originates from north eastern Africa, where wild and cultivated forms are still present³.

In Niger, sorghum is the second most important cereal crop. Despite this popularity, the crop is subject to the effects of climate change, pressure

from crop pests, declining soil fertility and seed-related problems. The authorities have responded to the seed issue by implementing a national seed policy that promotes improved⁴ seeds, often to the detriment of farmers' varieties. This case study brings to light how misguided this approach may be by revealing the productive, adaptive and socio-cultural characteristics of farmers' varieties of seed, gained through generations of seed management and stewardship by farmers.



1 Allam, A., Tirichine, A., Madani, H., & Benlamoudi, W. (2018). Morphological variability of sorghum (*Sorghum bicolor* L. Moench), grown in the Oued Righ valley (South-East Algeria). *Lebanese Science Journal*, 19(1), 10.

2 Koffi, K. G. C., Akanvou, L., Akanvou, R., Zoro, B. I. A., Kouakou, C. K., & N'da, H. A. 1Université d'Abobo-Adjamé, Unité de Formation et de Recherche des Sciences de la Nature, 02 BP 801 Abidjan 02, Côte d'Ivoire 2 Centre National de Recherche Agronomique (CNRA), Km17, Rte de Dabou, 01 BP 1740 Abidjan, Côte d'Ivoire

3 Shewale, S., & Pandit, A. (2011). Uses of sorghum and value addition. *Sorghum: Cultivation, Varieties and Uses*, 181.

4 Improved varieties are bred for industrial agricultural systems. They have reduced genetic base compared with the high variability present in the genetic materials farmed traditionally.

The case study was conducted in the rural commune of Matankari in the Dosso region of Niger, where the endogenous sorghum variety, Talankotché is valued for its resilience, hardiness, nutrition and superior taste. Dosso is located in the Sahelian zone and farmers must therefore contend with the effects of desertification and climate change, increased impoverishment and scarcity of natural resources. The efforts of these farmers to conserve their farmer managed seed varieties are supported by SwissAid within the framework of the promotion of agroecology, which is considered by small-scale producers as an efficient way to increase food availability and strengthen their resilience in the face of climate change, but also with the aim of preserving their tradition.

The many virtues of local sorghum according to farmers' experience

The local sorghum seed used in the village of Garin Gouala in the rural commune of Matankari is Talankotché, also called Bagofa. This variety is endogenous to the area. The leaves are generally long, flat, linear, rounded and alternate. The panicle is large and the stems are large and long, which is why they break easily at maturity. The seeds are red. While the seeds of other local



Figure 1: Talankotché seedlings in the village of Garin Gouala in the rural commune of Matankari

sorghum varieties, namely white sorghum, have disappeared in the area due to poor rainfall, the yields of Talankotché seed remain high. According to some farmers, its yield can reach 4.8 tonnes per hectare depending on the growing conditions. It is a mixed seed that is both productive in straw and in seed – the straw is an excellent feed for livestock. For Malam Harouna Bonkano, 75 years old and head of a household of 12 people, the difference is significant in terms of weight and growth for farmers who use Talankotché sorghum for fattening livestock.

In the history of the village, a man who has a granary full of sorghum is well appreciated by the women. In addition, in the past, when marriage proposals were made in the village, the man's family was usually asked if he had a mortar and pestle to grind Talankotché. The highly nutritional products of Talankotché are transformed into several culinary specialities, notably the ball, the legs, the Dambou (or local couscous) and porridge. It is preferred over maize and brings notable health and vigour to those who consume it. The products and by-products of Talankotché are very rich in fat, carbohydrate and vitamin B1 and B3. Further, it is cherished for its taste – the stalks are sweet and palatable to children and create a dough that is far more delicious than any other variety. The seeds are processed into an array of dishes. The taste of Talankotché is reportedly far superior to that of the so-called improved varieties.

Talankotché is hardy and resilient in changing conditions

The seed adapts well to climatic variations. During periods of low rainfall, this seed manages to produce. Night humidity is used by this seed to complete its cycle. According to producers, the best yields are obtained during periods of good rainfall (around 500 mm). This seed is also appreciated for its ability to adapt to drought. According to the farmers, it can withstand pockets of drought for more than two weeks.

One of the strengths of the local Talankotché sorghum seed is its resistance to pests. Indeed, according to the producers, whatever the degree

of attacks on this variety, the yields are always satisfactory. Nutrient-wise, the seed of the local Talankotché variety is not demanding. It adapts to poor soils but the best results are obtained by applying organic fertiliser. The main constraint cited by the farmers is that children sneak away to cut Talankotché canes because of their sweet taste.

Talankotché fetches excellent prices on the market

On the market, products and by-products are available all year round. A 100 kg sack sells for 18,000 FCFA at harvest time, and from May onwards it is between 33,000 and 35,000 FCFA. In the area, Talankotché sorghum is more valuable than millet and maize. Households that consume Talankotché sorghum are considered to be middle-income or affluent households. In the fight against diabetes, Talankotché seed is to be preferred in consumption over improved seed.



Key lesson

The results of this case study reveal evidence from farmers that local seed varieties are key to overcoming the many challenges they face in the harsh Sahel region in which they live. Farmers express their support for this variety over improved varieties, based on their lived experience and cultural and dietary preferences. The seed of the local Talankotché variety is conserved and transmitted from generation to generation and has been adapted to local conditions and shows the capacity to adapt to changes brought about by climate change. These encouraging results constitute a solid argument for the promotion of farmer managed seed systems and the extension of agroecology. It is important that farmers are involved in the choice of local seeds in agricultural policies, not only to avoid genetic erosion, but also to boost agricultural yields with seeds that are well suited to the precarious soil and climatic conditions of Niger.



CROPS4HD

This document is an output of the CROPS4HD project (www.crops4hd.org): a consortium of SWISSAID, FiBL, and AFSA supported by the SDC and LED. CROPS4HD has three major components: production, market and policy advocacy.

AFSA, which is responsible for advocacy, is a broad alliance of civil society actors involved in

the fight for food sovereignty and agroecology in Africa. Its members represent small-scale farmers, pastoralists, hunters/gatherers, indigenous peoples, faith-based organisations and environmentalists from across Africa. It is a network of networks, currently with 37 members operating in 50 African countries.

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About Raya Karkara

Raya Karkara is a multi-stakeholder agroecology platform in Niger. "Raya Karkara was set up to strengthen the synergy between the players involved in agroecology. Its mission is to work towards the emergence of a strong and enlightened social movement for the promotion of agroecology, with a view to the effective realisation of the right to food and food sovereignty at national, regional and international levels. It is committed to supporting family farming, capitalising on experiences, sharing them and creating the synergies and alliances needed for effective and appropriate dissemination.



WHO IS AFSA?

AFSA brings small-scale farmers, pastoralists, fisherfolk, indigenous peoples, faith groups, consumers, youth and activists from across the continent of Africa to create a united and louder voice for food sovereignty.

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