

## Useful plants in Sudan <Part 5>

### Wheat

There's no denying that wheat is a "useful plant" for humanity. Along with rice and maize, wheat is one of the world's three major crops, with a production volume of 765.76 million tons in 2019. It ranks second after maize and is produced in almost the same volume as rice. It occupies the position of the main grain in terms of consumption in Sudan. From the traditional staple food, sorghum, wheat gradually became a popular food. For details on how it became popular, see past AAINews series " Sudan Kassara Essays <4>" (AAINews No. 88). However, a significant gap remains between production and self-sufficiency. Currently, this gap is being filled by external procurement through imports and the government provides production quotas, loans, subsidies, etc. Despite government incentives to encourage planting, the cultivated area for wheat is not increasing.

The economic situation regarding wheat rapidly deteriorated due to a combination of factors, such as rising prices and the depreciation of the country's currency due to exchange rate fluctuations. The price of wheat flour has increased, leading to shortages of bread products, and the long lines forming at bakeries on the eve of the revolution in 2019 are still fresh in popular memory. Since then, financial difficulties have been exacerbated by political changes such as revolution and social unrest, and the effects of the war in Ukraine have also been serious, therefore the supply and demand situation for wheat in Sudan is expected to worsen further. In addition, bread baking was electrified 10 years ago, but due to the rise in prices recently, the fuel used for baking has gone back from electricity to gas, and then from gas to firewood. As mentioned above, there are various difficult aspects to the situation surrounding wheat in Sudan, but in introducing it as a "useful plant", I would like to spotlight recent positive developments in terms of production and future possibilities.

Wheat was originally a crop suitable for cultivation in semi-arid, cool winter/spring climates. Although there are limited areas suitable for production in Sudan due to its high temperatures, wheat production is flourishing in the Northern States and northern River Nile States where winters have a relatively long period of low temperatures. Therefore, developing heat-resistant varieties is an

important issue in Sudan. About 30 years ago, when I was staying in Syria, one Sudanese researcher was working at ICARDA (International Center for Agricultural Research in Dry Areas), which was headquartered in Aleppo at the time. I am reminded of this researcher studying abroad and talking passionately about heat-resistant varieties. In recent years the effects of climate change have been discussed, and there is an urgent need to develop varieties that are resistant to heat caused by global warming. In Sudan, the JICA-SATREPS project, "Development of Innovative Climate Change Resistant Technologies for Sustainable Wheat Production in Dry and Hot Agroecosystems in Sudan and Sub-Saharan Africa" is underway. There are growing expectations for creating varieties that can withstand harsh climates.

On the other hand, in Sudan, from the perspective of increasing and promoting wheat production and planting by small-scale farmers, attention is being paid to the idea of combining summer crops with new cash crops as well as introducing crop rotation. However, there are constraints such as the problem of revolving funds for planting and the obligation to get seeds and fertilizers from banks and repay them in kind. Therefore, while wheat can be used for self-sufficiency and as a reliable source of cash income it is generally not an attractive cash crop for farmers in terms of profitability if there are other competing cash crops. As a way out, it is important to establish a crop rotation system with oil crops and legume crops such as pigeon pea and soybean, and to create an efficient capital circulation model between summer and winter crops. We believe that the creation of heat-resistant wheat varieties and the introduction of useful new crop rotation systems will lead to expanding the future possibilities of wheat production.



**Harvesting wheat with combine. Mechanization is essential.**