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4.5 Triticale Production and Utilization by Tunisian Farmers: Preliminary Results of a Farm Survey

The Tunisian Ministry of Agriculture started promoting triticale production in the early 1980s with the aim of reducing maize imports for the rapidly expanding poultry industry. Triticale areas rapidly increased from 4,000 ha in 1984 to 16,500 ha in 1991. Triticale's yield advantage and its good resistance to major cereal diseases and to lodging has made its cultivation very attractive, particularly in the favorable zones of the North where barley harvests are unreliable due to diseases and lodging risk. However, the reluctance of the poultry industry to incorporate triticale in poultry diets did not allow triticale utilization to expand, leading to the present situation in which production has largely exceeded demand, resulting in chronic surplus stocks. This situation has lead some officials to question the rationale of current government policy of supporting triticale production and, over the past two years, there were persistent rumors that the State was about to abandon this support policy.

The main objectives of this study were to identify how Tunisian farmers have integrated triticale in their farming systems, the extent of triticale's on-farm utilization and the agronomic and socioeconomic constraints to triticale adoption and diffusion. The findings could provide policy-makers and researchers with additional farm-level information to assist them in their efforts to re-evaluate the current triticale situation and to develop new strategies to deal with it. The study was based on a survey of 52

triticale growers in the sub-humid district of Mateur and the semi-arid districts of Medjez-el-Bab and Goubellat.

The survey showed that triticale is a crop grown predominately by large farmers (with 50 ha or more) who accounted for 95% of total triticale production in 1991. Small and medium farmers have only recently started growing triticale and, in 1992, they represented about one third of all triticale growers. The survey farmers consistently praised triticale's resistance to diseases and lodging and its tolerance to drought. Moreover, triticale demonstrated a clear yield advantage over barley (an average of 22% higher grain yield). Triticale's yield advantage over wheat was very modest in normal years (5-6%) but was more apparent in dry years, when it outyielded durum wheat by an average of 39% and bread wheat by 10%.

The survey results also indicated that on-farm utilization of triticale is still relatively limited, with about 15% of total grain output fed to on-farm sheep and cattle. More than half of livestock owners used some triticale to feed their animals, but only 10% of the survey farmers used more than 50% of their triticale output in animal feeding. These farmers were generally very satisfied with the results, especially in feeding milking cows and ewes. Given that a relatively large number of triticale growers seem to be still experimenting with small quantities of triticale grain in animal feeding, the positive results obtained by more experienced farmers suggest that the prospects for a much higher on-farm consumption are promising.

So we have, on the one hand, survey results that clearly show that triticale is highly adapted to the sub-humid and semi-arid areas of Northern Tunisia, that farmers there are obtaining reasonably high yields and that it is becoming increasingly utilized in the livestock production activities; but, on the other hand, as a result of widespread rumors about the State's intention to abandon its support to triticale production, we find that triticale areas declined sharply in the 1991/92 season to a level approximately 45%

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below that of 1990/91. Such sharp declines in production will likely solve the short-term problem of excess stocks. However, in the absence of official statements clarifying the State's position as to the future of triticale cultivation, the uncertainty could push the majority of farmers to abandon triticale cultivation permanently.

Should the government opt to remove its support, the lack of a private triticale market and the still limited on-farm consumption could very well lead to the virtual disappearance of a crop that has shown great adaptability and productivity under Tunisian conditions. The positive results obtained by some of the survey farmers in feeding triticale to sheep and cattle suggest that policy makers may want to explore alternative triticale strategies based on promoting triticale for livestock as well as for poultry feeding. The current reluctance of the poultry industry to use triticale will likely diminish gradually, particularly if triticale prices remain as competitive as they currently are compared to other feed ingredients. In addition to this cost-saving incentive, the poultry industry would probably require a reasonably large and stable supply of triticale before it could be incorporated in poultry diets.

An alternative strategy to promote triticale as a livestock feed should expand the demand. This would not only solve the problem of excess production and but might ultimately induce farmers to expand their triticale areas. Thus, by the time the poultry industry decides to start incorporating triticale in poultry diets, production might well have reached levels sufficiently large to guarantee a stable supply for poultry feed manufacturing. However, the elaboration of such an alternative strategy would require more research to estimate current and future demand for triticale by the livestock feed manufacturing industry and by livestock producers. Such research should attempt to determine possible triticale producer and sales prices that would minimize both the need for government subsidies and for prolonged storage of excess production.

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