

International Partners Improve Cattle Here And In South Africa

WASHINGTON, D.C.

A U.S. Department of Agriculture (USDA) scientist has developed a partnership with colleagues in South Africa that is improving prospects for cattle breeders in that African nation – and could improve them for breeders around the world.

Efforts by Mike MacNeil, an Agricultural Research Service (ARS) geneticist at the agency's Fort Keogh Livestock and Range Research Laboratory in Miles City, Mont., are designed to equip South Africa's scientists with better research tools to help cattle breeders and farmers in remote, underdeveloped areas. ARS is USDA's principal intramural scientific research agency, and this research supports the USDA priority of promoting international food security.

Much of the research focuses on Nguni (pronounced en-GOO-nee) cattle, an indigenous breed popular among poor and emerging farmers in South Africa because of its fertility, tolerance to harsh conditions, resistance to ticks and tolerance to tick-borne diseases. In a recent study, MacNeil and his colleagues examined ways to address a chronic problem: Nguni that are too small and deposit too much fat before reaching market weight, making them undesirable for commercial feedlot operations.

They examined factors that breeders could consider in trying to improve progeny of their Nguni cows by mating them with larger and beefier Angus and Charolais bulls. The result-

ing crossbred ideally would retain the Nguni toughness and adaptability, but would take on the improved beef aspects of the Angus and Charolais sires. The research, published in the South African Journal of Animal Science, built on MacNeil's work at Fort Keogh on development of crossbreeding systems and breeding objectives for U.S. domestic breeds.

Olivia Mapholi, a scientist with the South African Agricultural Research Council who studied under MacNeil at Fort Keogh, continues



to consult him as she searches for quantitative trait loci (QTLs), or areas of the cattle genome, that confer the ability to tolerate tick-borne diseases. Mapholi is crossing tick-resistant Nguni with tick-susceptible Angus and is looking for genes that confer resistance to ticks. Her research could benefit beef production in any part of the world where ticks are a problem, including the United States. Δ



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