Building Rural Income through Inclusive Dairy Business Growth in Ethiopia (BRIDGE)

From Driving to Milking

Case story

Introduction

In Ethiopia, dairy cows typically produce milk volumes that are significantly below their genetic potential. Early or late drying-off, improper management of the dry period, absence of transition period management, inadequate fresh and early lactation stage management, and inability to maintain cow comfort (light, air, rest, and space) collectively have a negative impact on dairy cows' milk productivity.

Tewachew Biazen's Story shows: he is a dairy farmer in Yilmana Densa district of the West-Amhara Dairy Cluster. He earned a living by using horse-cart to transport people, an off-farm activity. In June 2018, he spent ETB 10,000 on a crossbred calf intending to increase and diversify his income source through the sale of dairy cows. However, he was aware of a primary dairy cooperative called "Adet dairy coop" in his district where he could supply raw milk, so he joined them and now he supplies them with raw milk on a regular basis. Currently, Mr. Tewachew has a herd consisting of two cows, a heifer, and a female calf. He is one of 13 dairy farmers in his village who are members of the Lactation cycle focused dairy farmers extension group.

Figure 1Tewachew's comfortable barn with separate troughs for feed and water

Tilahun Ademe has been assigned as the village service provider to help Tewachew and the farmers in his group by offering lactation cycle-based advice and follow-up on both a group and an individual basis, to increase their cows' milk productivity. Mr. Tewachew, following the traditions of his region, dried off his cow near to calving time, gave insufficient colostrum to the calves, and made inefficient management with which milk production was always limited. Following Tilahun's advice, Mr. Tewachew applied different farm management practices as per the advice such as: he dried off his cow at the seventh month of pregnancy, and as soon she stopped milking, he stopped giving her concentrate feed. Instead, he gave her hay and crop residue. Three weeks before the anticipated delivery date, he gradually began feeding his cow concentrate once more.

Likewise, he applied a feeding system based on the stage of lactation and productive age of the cow, i.e., for the fresh cow, green feeds like silage, Rhodes, and elephant grass. He feeds concentrate twice per day (morning and evening) based on the milk yield of the cow and he supplies quality hay 24 hours per day. He divided the feed through into two parts for feed and water, so that the cows always have access to both. The farmer fills each water trough twice a day, for a total of 130 litres of water per trough (65 x 2). The water trough is made to be cleaned daily, thanks to its unique design. To provide his dairy herd with fresh air and light, he has also removed the plastered mud from his barn. After trying sand as a bedding material, which was impractical for him, he applied a sawdust and dried dung cake mixture to provide his cow with a great deal of comfort. With all these interventions, milk production has increased from 16 to 21 liters per day, or a 5-liter increase in milk yield from the previous lactation peak. Previously, the cow was waited up to 8-months after calving before insemination took place, even though she could do so 2-months after calving. The calf was weaned at 60 days as opposed to 6-months. His livelihood has currently been completely changed to dairy farming. His highest daily milk yield

provided to Adet Cooperative is 22 liters, and in two years, he plans to increase that to 150-liters from 7-lactating cows.

It is very common to hear dairy farmers complain about the price of milk not reflecting their production costs and how expensive the feed is. Also, it is well known that the largest cost component of milk production is feed. Tewachew proposes an intelligent solution to this complaint, which he applied on his farm, and it is to make **"smart use of his own resources",** such as replacing his eucalyptus tree with improved forage, which allows him to have more quality forage and depend less on purchased feed. The estimated total annual cost for Tewachew's various purchased feed sources used to be ETB 131,000 (ETB 86,400 for concentrate feed, 9,600 for spending at a nearby brewery, 20,000 for hay, and 15,000 for the purchase of crop residues).

Figure 2 Daily milk recording sheet of LC target cow

According to the advice he received from his service provider, he converted his crop land, which was approximately 1,500 m2 and was primarily used to grow potatoes, to produce forage, specifically elephant and Rhodes grass. He also owns 0.25 hectares of land covered with eucalyptus trees nine years ago. In nine years, he only sold the Eucalyptus tree twice, for ETB 47,000. His gross monthly milk sales revenue is ETB 27,000, so two months of gross milk sales revenue of ETB 54,000 is already higher than the revenue he made from nine years of eucalyptus tree selling business. His service provider's recommendation led him to compare his annual feed purchase expense to the revenue he made from selling eucalyptus trees. The results of this comparison prompted him to decide to remove the eucalyptus trees, with the intention of growing maize for silage to reduce the cost of his feed purchase.

Figure 4. Tewachew - in the middle while sowing maize for silage making with his daughter Netsanet on the right.

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