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“Development on the margin”

## Milking Management and Use of Oxytocin in Urban and Peri-urban Dairy Herds of Faisalabad, Pakistan

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### Abstract

Urban and peri-urban dairy production has been growing constantly during the past decades and continues to gain importance; about 5 % of Pakistan's milk comes from urban and 15 % from peri-urban producers. A study was conducted to evaluate the efficiency of this production system in Faisalabad, third-largest city of Pakistan. Using a structured questionnaire, interviews with 145 urban and peri-urban (4.0–9.4 km from city centre) milk-producing households (HH) were carried out during 08–10/2009. Based on cluster analysis, four types of dairy farmers were identified, namely semi-commercial smallholder mixed dairy-crop farmers (n=43), semi-commercial smallholder dairy farmers (n=30), commercial smallholder dairy farmers (n=53) and commercial large-scale dairy farmers (n=14). Of each type five HH were randomly selected for qualitative and quantitative on-farm monitoring of management of dairy animals during 06/2010–06/2011.

Dairy animals were milked twice daily, exclusively by hand. During the period of high milk flow (12/2010–03/2011), intra-muscular injection of 2 ml oxytocin before milking was practised by 90 % of the farmers to stimulate milk letdown in 52 % of the monitored lactating buffaloes and 15 % of the lactating cattle. Oxytocin can be easily purchased for as little as 18–20 rupees/50 ml from local shops, even at village level. In general the calves of the injected animals had died, had been separated for sale or were not accepted by the dams. Some lactating animals were injected once daily while most of them received oxytocin at both milkings.

While oxytocin generally increases milk yield by enhancing milk ejection, the reported magnitude of increase is quite variable, ranging from zero to a maximum 12 % of milk production. Animals regularly treated with oxytocin become drug habitual, as repeated injections interfere with normal milk secretion and inhibit the normal ejection reflex. Prolonged use of oxytocin also causes fertility disorders such as poor estrus signs, low conception rate, high embryonic mortality, shortened lactation period, increased abortion rate, calf death and incidences of mastitis, as well as delayed puberty. These problems are currently addressed in progeny-history interviews targeting each milking animal in the 20 monitored herds.

**Keywords:** Buffalo, cattle, fertility, milk let down