#7 Effluent management on a dairy sheep farm

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Milking sheep produce an effluent stream from the milking parlour that is either applied directly from the sump to land via spray irrigators, or is stored in an effluent pond for later application to land. Research has shown that farm dairy cow effluent (FDE) systems have contributed to incidental losses of nutrients (especially nitrogen and phosphorus) and faecal bacteria to water. A considerable investment in research has therefore helped identify appropriate management guidelines for safely returning FDE to land to limit these losses. In order for the dairy sheep industry to have the ability to limit its environmental impact and maximise the value of sheep FDE, information is required on the volumes and nutrient content of sheep effluent generated at the milking parlour. A monitoring programme was therefore undertaken with effluent samples collected over two lactation seasons (2014/15 & 2015/16) from three case study sheep milking farms (n =33). The mean physical and chemical attributes of these effluent samples were: 0.54% DM, 0.220 kg N/m³, 0.032 kg P/m³, 0.150 kg K/m³ and 0.022 kg S/m³. The mean nutrient concentrations of dairy sheep effluent are lower than values reported for dairy goat and dairy cow effluents. The fertiliser N, P, K and S value of dairy sheep effluent represented the equivalent of $0.58/m³, which is slightly lower than the $0.76 and $1.29/m³ calculated for dairy goat and dairy cow effluents, respectively. The lower value for dairy sheep effluent was due to the lower concentration of the most expensive nutrient, P. Typical effluent volumes generated at dairy sheds range between 5-10 L/ewe/day reflecting the difference in scale between large operations (>2000 ewes and smaller scale operator’s (<200 ewes). The dairy sheep industry is subject to the same effluent rules and regulations pertaining to other dairy industries. The paramount requirement of these is that there are no incidental losses of applied effluent to water. Adequate storage volumes and adherence to effluent irrigation scheduling criteria (depth, rate and timing of applications) are therefore essential components of a well-managed dairy sheep effluent system.