
**Manure: a valuable resource (part 2);
Manure management in large-scale footloose/landless livestock systems**

PROGRAMME webinar February 17:

- *Recap of Webinar 1 and deepening the subject of manure management in large-scale footloose/landless livestock systems* by Theun VELLINGA, Senior Researcher Livestock Systems and Climate Change at Wageningen UR (University & Research centre) Livestock Research in the Netherlands; and leader of the Livestock and Manure Management project.
- *The Role of the Public Sector* by Roberto AZOFEIFA, Chief of Sustainable Production Department, Ministry of Agriculture and Livestock of Costa Rica.
- *The Role of the Private Sector* by Hsin HUANG, Secretary General of International Meat Secretariat (IMS) in Paris.

SUMMARY

After recapturing the main topics and issues of the first webinar, **Theun Vellinga** focused on the large-scale and often landless and footloose intensive livestock systems. These systems are highly specialized and have a high level of control regarding feeding and animal care; and are often concentrated near major consumer markets.

Due to the scale of operation and the economical need of labour efficiency, these systems mainly have liquid manure, or slurry. Although the economics of scale give slurry an advantage over solid manure, when it comes to crop application the major disadvantage is its large volume due to its high water content. Transporting a lot of water is very expensive. And also the equipment for application are quite costly. Improper recycling of nutrients to the feed and fodder crops causes nutrient overloads in livestock concentration areas and soil depletion in areas far away. Using synthetic fertilizer is not enough to replenish those soils, because synthetic fertilizer lacks other important elements such as organic matter and micro-nutrients.

Another disadvantage of slurry, especially when stored in lagoons without cover, is its high potential emission of the greenhouse gas methane. And although anaerobic digestion of the slurry is a good solution for that, this still leaves the issue of nutrient overload versus soil depletion to be solved. To get to practice change, Theun Vellinga showed the large number of stakeholders in the commercial supply and service chain around the large-scale systems. Many of them can play a role in facilitating or assisting the farmer to improve his manure management. Evidence of the costs and benefits are essential to stimulate practice change. This presents challenges and opportunities for the public sector as well as the private sector.

After Theun Vellinga's kick-off, **Roberto Azofeifa** approached the subject from a public sector point of view in the Costa Rican perspective. The premise for public sector involvement lies in the Costa Rican constitution, which states: "Every person has the right to have a healthy and ecologically-balanced environment", and, "The State will guarantee, defend and preserve that right". The Costa Rican government has a clear regulatory role through laws and regulations in which they establish rules, parameters, and indicators related to all kind of residues, including livestock manure. A positive aspect is the co-development of the legislation by all involved ministries: Health; Environment; Planning; and Agriculture and Livestock. An additional precondition to policy development is competitiveness. All the efforts to incorporate the organic residues in the production systems should be oriented toward the competitiveness in the agricultural sector and to contribute in energy matrix diversification.

Looking at the roles for the different stakeholders, Roberto points out the need for more capacity building and research in which several stakeholders can contribute. Also the financial sector should make it easier to supply credit to farmers which want to invest in improving their manure management. Roberto explained that one of the mechanisms for financing is government support. Costa Rica has a national programme to support interventions in manure management on livestock farms, as an incentive for environmental services. Also private companies have commercial interest, for example by selling equipment for on-farm biogas production, and energy companies are interested to market this source of energy.

In the long-term Roberto sees manure management, including biogas, as a solution with multiple benefits rather than as a problem.

As Roberto Azofeifa approached the subject from a public sector point of view; **Hsin Huang** showed us the views of the private sector and more specifically the meat-producing sector. Manure production has changed over time as production has shifted to more intensive systems. Intensive production systems make it possible to meet increased demand for meat at affordable prices.

Hsin confirmed the statement earlier made by Theun Vellinga, that manure management is not 'one size fits all'. Proper planning and installation of a manure management system open up opportunities for a variety of uses of manure as a source of energy, protein, and nutrients.

No system is right or wrong for every situation. But this doesn't mean there aren't any rules. The meat sector organisation is in favour of a set of rules, but also realizes that implementation is not taking off quickly enough everywhere. These rules of engagement, include:

- Regulatory environment that provides a level playing field;
- Research and development to find appropriate solutions for each context (production system, weather conditions, etc.);
- Dialogue and Ownership by stakeholders – private sector, public sector, and the public.

Hsin emphasized the complexity of looking after people, planet and profit. This requires concerted efforts by both the public and private sector, and should be stimulated by dialogue. Investments by the private sector in manure management improvement can be triggered by the fact that the private sector is sensitive to keep a good public image. To ensure this, we need to be better educated about environmental and financial benefits of good manure management.

The discussion session revealed that there are many good initiatives for improving environmental impact of livestock systems besides the [Global Agenda for Sustainable Livestock](#). For instance, FAO has established the [LEAP partnership](#) to put together global guidelines for evaluating environmental impact of livestock systems. This was created with different stakeholders, such as smallholders, governments and private companies. The panel emphasized that, from the farmers perspective, the economic benefits of manure are more important than the environmental aspects. Therefore, manure should be framed as a valuable resource, as an incentive to practice change.

Click [here](#) to watch the integral live recording of webinar 2.