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Progress of the milk production register (Dhl), in Uruguayan conditions by combining radio frequency (RFID) and bar code system

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With 5% of the Uruguayan territory it is possible to produce milk to feed more than 20 million people annually, equivalent to 6 times our country population. The average dairy farm in the country has 150 milking cows and 250 hectares. There are 3,800 dairy farms with an average yield of 18 liters of milk per cow per day, feeded by a grazing extensive system

Since 2006, producers had been mandated by the Ministry of Livestock, Agriculture and Fisheries to identify 100% of livestock as , from 6 months of age. This regulation led to improve traceability and, therefore, Uruguay became the first country in the world, to have RFID tags to trace all the livestock .Despite this, it is interesting to say that, only 25% of dairy cows of each dairy farm in Uruguay participate voluntary in a monthly milk production register (DHI).

The objective of this work is to present the development of a tool that combines the use of barcode and radio frequency identification (RFID) to facilitate the process of recording samples of milk at the farm (DHI) and improve management and traceability at the laboratory. A smart phone with Android system type was included, with a developed software, was validated in field and laboratory by 9 record controllers in 32 dairy farms, with 96075 milk samples.

The data is based on the individual traceability system of 780.000 dairy cattle that exists in the country through the use of the RDFI ear tag, and the connection with the bar code used by the milk sample vials.

The system facilitates proper function of a milking registration service, a faster data collection during milking, improves accuracy in capturing animal data improving transmission in the laboratory, traceability and processing speed.

The development of this tool is an asset management redirect the volume of samples, the processing speed and the variety of data that requires technology and analytical methods to add value to the DHI systems.

Appling portable equipment's that improves the capture of animal data, transmits it by air to the laboratory and, therefore, facilitates the entry of data before milk samples from individual cows have reached them; Furthermore, it is possible by the software that manages an Android language with applications in the milk analysis laboratories that analyze cow's milk samples for dairy herd improvement tests (DHI).

The results of the DHI are the basis for decision making for the management of the operating system, health management of the

veterinarian, consulting (local health services, food) and genetic improvement.

For this reason, in Uruguay and the region it is necessary to press the weak 25% of monthly milk production registration (DHI) until the next level facilitating the processes through t ant appropriate system with innovated developments of milk production systems.

Keywords: radio frequency identification, cow‘s milk samples