INTERNATIONAL ANIMAL AGRICULTURE: GLOBAL PROSPECTIVE OF LIVESTOCK PRODUCTION SYSTEMS TO MEET THE GROWING NEED FOR ANIMAL PROTEIN IN HUMAN DIETS: IMPACTS ON PRODUCTION AND HUMAN HEALTH

0402 Parallel comparisons of intensive meat production in developed and developing countries. What can we learn from each other's systems?.

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The world in the short future will confront 2 important facts: the population is increasing and meat consumption by people has been increasing. The challenge will then be: how will we produce enough meat to supply this growing meat demand? It is time to review the intensive meat production strategies conducted in different regions of the world and to learn from each other. In the developed countries, meat production is based in obtaining food energy from cereal grains, and the use of extensively processed grains is the main starch source. In developing countries, food energy sources come from crop residues, grain process byproducts, high-sugar-content byproducts, low-processed grains, and alternative feedstuffs regionally available. The concept of meat quality is different, too. Lean meat is the goal in pork production; while in beef production, it is different. In several developed countries such as in the United States and Japan, meat quality has a high relationship with tenderness and marbling. In most developing countries, lean beef is well accepted and tenderness is not necessarily a condition for sale. Geographical location imposes limitations on cattle breed, age to placement in feedlots, and finishing weight. This presentation will explore what we can learn from these production systems, drawing a parallel comparison of intensive meat production in developed and developing countries.

Key Words: meat production, population

0403 Methods to improve nutrient intake in grazing cattle: Pasture management and supplementation.

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Most of the grassland areas in Brazil are covered with tropical grasses. The majority of the milk (Stock et al., 2011) and beef (Millen et al., 2009) are produced on pasture-based systems. In intensive grazing systems during the hot rainy season, stocking rates of 6 to 10 AU/ha (1 AU = 450 kg BW) can be achieved (Santos et al., 2014). Despite the high stock capacity, the ADG and milk production are lower than the animals' genetic potential, and this is attributed to the limited energy intake. Some of the major factors imposing limitations to energy intake by the animals in tropical grazing systems are: (a) low efficiency of the grazing process because of sward structure, and (b) rumen fill. During the last 2 decades, a considerable amount of information has been published related to new management practices of tropical pastures. The adoption of the start grazing point, based on the 95% light interception criterion, has successfully resulted in a more favorable sward structure which allows the animal to harvest a greater daily amount of forage in a shorter grazing period. However, even when all the available technology on tropical pasture management is applied, forage intake is still limited because of rumen fill. The quality of the tropical forage NDF (IVNDFD) is greater than alfalfa. However, the NDF content (51 to 65%) and its low cell fragility cause rumen fill, and they limit energy intake. Studies related on cell fragility of tropical grasses are limited, and this topic deserves more attention. Supplementing high energy concentrates for grazing cattle is, at the same time, an efficient strategy to increase energy intake and to decrease the energy expended with the grazing activity. The substitution effect observed when concentrate is fed to grazing cattle is related not only to the amount of concentrate fed, but it is also related to the pasture management practices.

Key Words: grazing, nutrient intake, efficiency