

## **Dietary Fibres: Their Analysis in Animal Feeding, and Their Role in Rabbit Nutrition and Health**

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### **ABSTRACT**

Two centuries ago, Heinrich Einhof develops the so-called Weende method, to first deals with the fibre content of the feeds for ruminants, and proposes to isolate a residue called the "crude fibre" (Van Soest & McQueen 1973). Then, dietary fibre concepts evolve and differ in animal feeding compared to human nutrition and health. Animal nutritionists deals with various fibre sources, often from whole plants (forages, by products of seeds processing, etc.), and recovers a larger range of polysaccharidic components, including other polymers, such polyphenolic (lignins, tannins) or polylipidic compounds (cutins). Dietary fibre is generally defined as the polysaccharides and associated substances resistant to mammal enzyme digestion and absorption that can be partially or totally fermented in the gut. However, today this topic is still subjected to very active research, because of the complexity of the physical structure and chemical composition of the plant cell walls, and in the wide and different physiological effects of the different constituents. The importance of dietary fibre in animal feeding is due to its influence on rate of passage, mucosa functionality and its role as substrate for gut microbiota that relates to performances and digestive health. Our review will consider briefly the definition and structure of the different classes of fibre and of cell wall constituents, followed by a description of some analytical methods employed for animal feeds. Secondly and as an example, the nutritional role and impact of fibre intake on digestive health will be described for the growing rabbit, since as a monogastric herbivore this animal is a very pertinent research model, and is of interest for meat production in western-Mediterranean and east countries.

**Key Words:** Dietary Fiber, Analysis, Nutrition, Health

**Full text of paper published in Indonesian Bulletin of Animal and Veterinary Science "Wartazoa" 2013, Volume 23 Number 4**