

Jung, H.G., Buxton, D.R., Hatfield, R.D., Ralph, J. (ed.): **Forage Cell Wall Structure and Digestibility**. - American Society of Agronomy, Crop Science Society of America, Soil Science Society of America, Madison 1993. 820 pp. Hardcover, \$ 42.00.

The publication is based on the International Symposium on Forage Cell Wall Structure and Digestibility held at 7-10 October 1991 in Madison. It consists of 7 sections and 27 chapters. The first section is devoted to organization of forage plant tissues, utilization of different type of forages by ruminants, opportunities of greater animal productivity from forages and perspectives of cell wall biodegradation. In the second section various new methods of analysis of cell wall components are described and compared. Lignin distribution in wood is discussed, too. The third section deals with structure of cell wall polysaccharides, their linkages with hydroxycinnamic acids, deposition of carbohydrates and lignin during the cell wall differentiation. Cell wall matrix interactions and degradation are described in the fourth section and microbial and molecular mechanisms of cell wall degradation are included in the fifth one. The rumen microbial species and their activities, synergism and negative effects between them are analysed there. Problems of genetic engineering of ruminal microbes are also mentioned. The sixth section will be interesting especially for specialists for polygastric animal alimentation. Cell wall degradation in the ruminant - influence of particle size, movement of particles and their comminution and passage in ruminants, and effects of cell wall composition and structure, influence of feeding management on ruminant fiber digestibility, and opportunities to increase amount of forage fed and energy availability from fiber are described there. The last section is devoted to mechanisms for altering cell wall utilization. Environmental and genetic effects on cell wall composition and digestibility and influence of postharvest treatment are included, that can be interesting for farmers too.

The authors review very completely not only the latest information but also vision of future opportunities for research. The publication is supplied by a lot of figures, pictures, photos and tables. It can be very useful for researchers, who are interested in genetics, plant production, physiology of plants and animals and especially in animal alimentation.

M. SVOBODOVÁ and J. ŠANTRŮČEK (*Praha*)