

THE INVESTIGATION OF TECHNOLOGICAL AND FUNCTIONAL PROPERTIES OF BAMBOO DIETARY FIBRE

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Dietary fibre is the edible parts of plants that are resistant to digestion and absorption in the human small intestine with complete or partial fermentation in the large intestine. Dietary fibre is associated with many health benefits such as controls blood pressure, hypertension, and obesity and also protects human body from coronary diseases and potential carcinogens. Bamboo shoot is new and prospective source of dietary fibre for food industry.

Bamboo shoots are the edible parts of many bamboo species that can be used in fresh, dried and canned state. Shoots are rich source of dietary fibre which makes them one of the popular natural health ingredients for food technologies. The chemical composition of fresh and dry bamboo shoots is presented in Table 1.

Table 1 – Chemical composition of bamboo shoots

Component	Values	Component	Values, %
Bamboo shoots		Dry bamboo shoots	
Moisture content, %	91,06	Cellulose as:	37,21
Ash, %	0,81	Glucan	37,21
Protein, %	3,50	Hemicellulose as:	21,60
Fat, %	0,29	Xylan	19,77
Fibre, %	1,50	Arabinan	0,99
NDF, %	2,54	Galactan	0,31
ADF, %	2,08	Mannan	0,53
Lignin, %	0,49	Ash	1,41
Ascorbic acid, mg/100g	0,28	Lignin	24,29
Total sugars, %	0,8	Water-ethanol extractives	13,04
Reducing sugars, %	0,41		
Non-reducing, %	0,37		

Bamboo dietary fibre is an odourless and tasteless white powder with. Sanacel bamboo fibre with a length of 90 microns was chosen for investigation. Their main technological properties are water absorption capacity and oil absorption capacity. The physical and chemical parameters of bamboo fibre were investigated. The results are presented in Table 2.

Table 2 – Physical and chemical parameters of bamboo dietary fibre

Parameters	Values
Moisture content, %	6
Titrated acidity, grad.	24,8
Water absorption capacity, %	415
Oil absorption capacity, %	214

Thus, bamboo dietary fibre is a technological and functional ingredient for food technologies.