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Contents:

Stomach and jejunum morphofunctional features of some bulls' types in the conditions of acclimatization

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The research purpose was to study the features of rumen epithelium, stomach glands and intestinal crypts of Bos family and domestic representatives in the conditions of acclimatization in "Askania-Nova" preserve.

Mucous membrane stomach and jejunum of adult wild batengs, bisons, domestic cows of red steppe and grey ukrainian breeds were studied. Tissue samples were taken from indentical areas of rumen, fundus of stomach, jejunum and were investigated with the methods of histochemistry, light and electronic microscopy.

It was determined that rumen epithelium of bison and domestic cow had more similarities in comparision with banteng epithelium.

The mucous membrane of abomasumshad specific features in its thickness, gastric glands amount and their cells ratio. It was determined that banteng's abomasums had more fundic glands of stomach per 1mm^2 than domestic cow. Banteng's gastric foveolae fundic glands are short and narrow, and those of red steppe breed are considerably longer and wider. Banteng's depth of fundic glands foveolae was 1/4 - 1/5 of mucous membrane thickness, and in domestic animals it constituted up to ½ of mucous membrane. 1-2 fundic glands opened into gastric foveolae. Zymogenic cells prevailed in area gland fundus and body, and parietal cells distributed irregularly along a gland. The ratio of zymogenic and parietal cells of investigated wild bantengs and domestic bulls differed considerably. The mucocytes of gland neck were situated in excretory ducts of fundic glands. Mucopolysaccharides wre localized in apical part of cell. Among differentiated exocrinocytes there were cells on variousstages of mitosis.

Results of gistochemistry reactions on distribution of proteins, nucleic acids, mucoid substances, nonspecific alkaline and acid phosphatases, adenosine triphosphatase activity indicate considerable activity of metabolic processes in cells of stomach own glades of investigated animals. Bantengs had large intensity of reaction on proteins in zymogenic cells, and mucoid substances were mainly localized in epithelial cells of gastric foveolae.

It was determined that wild bantengs and bisons had much thinner wall of jejunum than domestic animals. Bantengs had larger amount of villi per 1mm^2 of jejunum mucous membrane that bisons and domestic animals.

Localization of different types of epithelial cells, histochemistry reactions indicate higs functional activity of jejunum mucous membrane structures, especially of bantengs, and gradient of structure and function in the system of cript-villus in all investigated animals.

Thus wild animals (especially bantengs) even in conditions of long acclimatization save the specific features of stomach and jejunum structure in comparison with domestic animals.