CORRELATIONS BETWEEN NON-STARCH POLYSACCHARIDES LEVELS FROM COMBINED FORAGES WITH DIFFERENT PERCENTAGE OF BARLEY AND VISCOSITY AT INTESTINAL LEVEL

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SUMMARY

The purpose of this paper work is to establish the correlations between soluble non-starch polysaccharides (NSPs), insoluble non-starch polysaccharides (NSPi) and total non-starch polysaccharides (NSPt) levels from combined forages with different barley inclusion percentage and viscosity at intestinal level. The experiment was made on a period of six weeks on 120 broiler chickens, hybrid ROSS 308, divided in four experimental lots: CL without barley in the structure of combined forage, EL1 with 10% respectively 20% of barley, EL2 with 20-30% barley and EL3 whit 30% and 40% barley in the first and respectively the second period of growth. The determination of intestinal viscosity was made at 3 and 6 weeks by slaughtering the chickens and sampling the duodenal and jejunum content. To establish the correlation between viscosity at intestinal level and the levels of non-starch polysaccharides from combined forages were used the simple correlation and curvilinear regression. At the age of 3 weeks the viscosity rises with the rise of barley inclusion percentage from combined forage and was with 33.65% greater at experimental lot with 10% barley and with 54.14% greater at experimental lot with 30% barley. It was found that the correlation coefficients between NSP content and the viscosity at duodenum level are positive, the greatest correlation coefficient was registered in the case of NSPs (0.92), which indicate that the digestion viscosity at intestinal level is influenced by the forage content in NSPs. At 6 weeks, at duodenum level the viscosity rise with the rising of barley inclusion percentage in the structure of combined forage and was with 64.67% greater at experimental lot with 40% barley in the combined forage. At 6 weeks the correlation coefficients between the NSP content and the viscosity at duodenum level respectively at jejunum level are positive, the greatest correlation coefficient was registered in the case of NSPs (0.998), which indicate that the digestion viscosity at intestinal level is influenced by the forage content in NSPs.

BIBLIOGRAPHY