PE1.10 The factors influencing growth and diameter of muscular fibres at sheep 99.00

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I. INTRODUCTION

Histologic researches of muscles spent for the purpose of revealing at the expense of what there is an increase in weight of skeletal muscles at sheep. It is confirmed that growth of skeletal muscles is accompanied by growth of separate muscular fibres, instead of increase in their quantity after a birth. It is considered that growth of muscular fibres is caused by two factors: 1. Increase in diameter, owing to accumulation myofibrils. 2. Lengthening of a muscular fibre, owing to addition new formed sarcomer.

II. MATERIALS AND METHODS

The researches conducted by us have shown that diameter of muscular fibres rams increases with the years with 10,2 - 11,6 microns (newborns) to 78,0 - 86,4 microns (adults). Most of all the increase in diameter of muscular fibres occurs in the first 4 months of a life áàðàí÷èêîâ (on the average on 4,23 microns of month) . Further growth of diameter of muscular fibres at rams gradually decreased and, from 4 to 9 months on the average made on 3,4 microns; from 9 to 11 months – on 2,6 microns; from 11 to 16 months – on 1,23 microns in month For the 48-month's period of a life of rams diameter of muscular fibres has increased in comparison with newborns in 7,21 times, and weight of muscles of all hulk - 26,90 times. It means that the increase in weight of a muscular fabric occurs not only at the expense of increase in diameter of muscular fibres, but also at the expense of increase in length of muscular fibres. Considering diameter of muscular fibres at rams to 11-month's age, i.e. young growth of sheep, it is visible that in comparison with newborns lambs diameter of muscular fibres of all muscles, on the average increases on 38,4 - 42,9 microns. All studied muscles consist of fibres of different size, and any dependence of scope of variations of their diameter on age of rams, or to certain type it is not possible to reveal a muscle accessory.

III. RESULTS AND DISCUSSION

Diameter of muscular fibres is influenced also by other factors, namely: breed of sheep - large breeds (Kuibyshev, a romni-march, Caucasian, in type Texel) had a little more diameter of muscular fibres, than small breeds (romanovskaya) 84,6 against 70,6 microns; – the least diameter muscles of dynamic type had muscle type. With increase in static properties of muscles diameter of fibres increases in them; a floor of an animal – rams in all one-age groups had more diameter of muscular fibres, than are bright on 7,76 – 16,17 %; castrations of rams – one-age wether (10 months) Had less diameter of muscular fibres, than rams on 3,4 microns, or on 7,16 %; crossing of animals - at 10-month's rams, romanovskaya Õ a romni-march, diameter of muscular fibres equaled on the average 40,2 microns. It is less, than at thoroughbred rams a romni-march (52,1), but more than at thoroughbred romanovskaya breeds (39,6 microns). A feeding level of animals - rams in all one-age groups at a high feeding level had more diameter of muscular fibres, than at a low feeding level, for example, at 10-month's age, 56,5 against 50,9 microns. The further researches have shown that larger animals quite often possess from the very beginning larger cages. However during individual development cellular elements reach at the large animal big sizes (big sizes reach kernels, chromosomes).

IV. CONCLUSION

The fast increase in number of muscular fibres with the raised diameter is a target (priority) direction in selection of house pigs, a bird and sheep. Diameter of muscular fibres depends from: age animal – 10,2 - 11,6 microns (newborns) and 78,0 - 86,4 microns (adults); breeds of sheep - large breeds had a little more diameter of muscular fibres, than small breeds: 84,6 against 70,6 microns; type of a muscle and a floor of an animal – rams in all one-age groups had more diameter of muscular fibres, than are bright, on 7,76 – 16,17 %; castrations of rams – one-age wether (10 months) rams, on 3,4 microns had less diameter of muscular fibres, than, or on 7,16 %; a feeding level of animals - rams in all one-age groups at a high feeding level had more diameter of muscular fibres, than at low level.