

The Blood NH_3 Index and Applications for Training of Track and Field Events

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ABSTRACT

To have brilliant achievement and proficient performance in the high competed sports field, you need not only a good coach and training schedule but also some good genetic qualities. Different muscle fiber types (Type I, Type-IIC, Type-IIA and Type-IIB) have different physiological characteristics. When during high intense exercise, human body will exert huge amount of Type II fiber which increase blood ammonia (NH_3) content in the short period of time. The purpose of this study was based on the metabolic characteristics of Type-II muscle fiber, in which ammonia was obtained for calculating NH_3 Index and application for training. 21 track and field athletes who were sprinters, mid-distance runners, long-distance runners, jumpers and throwers arranged into four groups joined this study. Blood samples were taken for analyzing and NH_3 Index was obtained for judgment. Results showed the high percentages of athletes in the three groups were not fitted for their NH_3 Index except mid-distance runner group. The obtained NH_3 Index is not only helping athletes for adjusting sport event but also applying coach the basis of specific training and adjustment which progresses achievement of training.

Key words: ammonia (NH_3), muscle fiber (Type I, Type II), application for training