

Significance of Seasoning in Cookery Science

—Salty Taste Preference and Hard Exercise—

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Abstract

An investigation was made to find the relationship between young people's salt taste preference and their personal history of physical exercise. Thus, junior college students were divided into two groups, namely the athlete group and control one. The athlete group students who have made their physical exercise regularly everyday for years are now belonging to some athletic club, while the control group students who have not experienced any special physical training hitherto are not belonging to any athletic club now.

The results of preliminary food intake survey made on these two groups of students revealed that the athlete group students took about 3,000 kcal of energy and 12g of sodium chloride every day, and the average amount of daily salt intake of the control group students was about 3g lower than that of the athlete group students. From the results of experiments using bicycle-ergometers, it was clarified that, in the case of students who were subjected to a considerably severe physical training and strongly sweated, their salt taste sensitivity tended to increase and they preferred the less weak saltiness immediately after their hard physical training, which seemed to be helpful to reduce effectively their strong thirsty.

Further investigations made on these two groups demonstrated that most of the athlete group students were accustomed to drink up the salty soup of Chinese juicy noodles, while most of the control group students did not. Also, the athlete group students preferred the saltiness of miso, soy paste, soups containing about 1.0% of salt, however, most of the control group students preferred those containing about 0.8% of it. Therefore, the daily salt intake of athlete group students were considered to be much larger than that of the control group students.

A survey on the food habit of mother of the athlete group students were made, and the results clearly showed that their mother preferred the less weak saltiness than their children, the athlete group students, and almost the same tendency was also observed in the case of the preference on the saltiness of miso-soup.

Thus, so far as the athlete group students concerns, immediately after the hard physical training, they preferred the less saltiness to reduce effectively their strong thirsty, however, taking large amount of various foods to meet large energy consumption due to hard exercise resulted to increase their daily salt intake, thus their strong preference to salty foods would have been formed.

[The Salt Science Research Foundation, Annual Research Report 1998. p.221-233]

Differences in the Effect of Iron-Deficient Diet on Tissue Weight, Hemoglobin Concentration and Serum Triglycerides in Fischer-344, Sprague-Dawley and Wistar Rats

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要 旨

Fischer-344 (FC), Sprague-Dawley (SD)並びに Wistar (WT)系雄ラットを用いてヘモグロビン(Hb), ヘマトクリット(Hct), 血清鉄, 成長率, および臓器重量を指標として, 鉄欠乏食投与が及ぼす系統差について検討を行った. 飼育開始時におけるFCラットのHb濃度(14 g/dL)はSDおよびWT(いずれも10 g/dL)に対し高値を示した. 鉄欠乏食(ID, 8 mg/kg)での飼育(33日間)終了後, FCのHbは鉄充足食(IA, 50 mg/kg)と比較して低値を示したが, IAとの相対的Hb濃度はSDお

よびWTと比較して高値を示した. Hctおよび血清鉄も同様の傾向を示した. 血清トリグリセリド(TG)はそれぞれの系統内でIAと比較してIDが高値を示し, FCラットのIAに対する比率(119%)はSD(328%)およびWT(394%)と比較して最も低い値を示した. ID投与群の後腹壁脂肪重量は全ての系統でIAに対しそれぞれ低値を示し, SDラットではこの影響が顕著であった. これらの結果が示唆するものは食餌性の鉄栄養不良に対する応答はラットの系統により異なり, FCラットはSDやWTラットと比較すると鉄欠乏食に対する感度が低いことが明らかとなった.