

## **VEGETARIAN TEENAGERS GROW NICELY, THANK YOU**

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### **Can a vegetarian diet produce adequate growth in children and youth?**

In the past this has been an unanswered question. Dr. Joan Sabate and his associates, of Loma Linda University, compared the growth of 1,765 Caucasian children from 7-18 years of age. (1) Students from Seventh-day Adventist schools were compared to those from public schools in Southern California. There were 452 boys and 443 girls from the state schools and 427 boys and 443 girls from the Adventist schools. A major difference in their diets was in meat consumption. Ninety-two percent of the public school children ate meat daily. The Adventist children were split quite evenly between three categories of frequency of meat consumption; less than one time per week, one time per week to one time per day, and those who ate meat more than once per day.

All groups--public and private school children, vegetarian and meat-consuming--grew at the 50th percentile of the National Center for Health Statistics. This implies that the groups as tested averaged close to local norms for height. In this study, the Seventh-day Adventist children who consumed the least meat, (zero to one time per week) ended up taller by about 2.5 cm (1 inch) for the boys and 2.0 cm for the girls. These results did not change significantly when mathematically adjusted for other dietary factors, height of parents, or socioeconomic status, in a sub-sample of 518 children. (1)

These data show that a vegetarian diet is quite adequate for growth in height. The vegetarians were trimmer. They weighed on average more than a kilogram less. With millions of Americans getting fatter by the year this is good news indeed. Not that silverware shapes us. But overeating is surely a rounding factor. (Pun intended.) Fortunately regular moderation in eating and regular serious exercise can do wonders in preventing and curing obesity.

Another significant factor for vegetarian girls is timing, the growth spurt of adolescence is delayed in vegetarian girls. (2) This delay of the growth spurt may be beneficial. Dr. Willett of Harvard mentions that several lines of evidence suggest that caloric restriction and slow growth rates may contribute importantly to the low rates of breast cancer found outside Western countries. (3)

A study from England compared 50 younger vegetarians from 7-11 years of age with 50 omnivores matched for age, sex and ethnic background. (4) Over the period of the year of growth that was studied, the vegetarians exhibited more growth (0.47 cm) which was shown to be unrelated to the father's height, maternal smoking habits, and number of siblings.

### **Problem With Macrobiotic Diet**

A study in the Netherlands, starting in 1985 and 1987, and then again with re-analysis in 1993, of 209 children on a macrobiotic diet showed that both girls and boys were below reference norm for height and for the sum of four skinfolds for their age. A more liberal diet, in this case one that contained dairy products, produced significant catch-up growth not only for height but also for arm circumference for age. (5)

## Vegetarian Contribution to Insulin-like Growth Factor

One hundred forty-four healthy boys studied in Ecuador were grouped by social class. Groups one and 2 were from the poorer classes and 3 and 4 were from the more affluent. (6) The authors found that the poorer the family the lower the IGF-1 levels in the blood were. This IGF-1 is held to be an important agent and marker for adequate response of growth hormone, which supports growth in the body. Then the poorest boys (groups 1 and 2) were divided into three groups, those supplemented with either a vegetable protein (18 grams) based on a traditional Andean food or an animal protein supplement of 18 g/ day, or a placebo. The IGF-1 levels responded to both the vegetable or animal supplements in 7 and 14 days.

## B-12 Deficient Baby

From Paris comes word of a 15-month-old strictly breast-fed baby whose mother had been a vegetarian for 10 years. (7) This infant had hypotonia, (weak, flaccid muscles), failure of psychomotor development (deficient mental and motor behavior) and megaloblastic anemia (defective red blood cell formation) with an arrest of growth. There were very low levels of vitamin B-12 both in mother's milk and in the infant's blood. After B-12 supplementation this infant responded, most fortunately. Four years later this baby showed normal growth in height and psychomotor development. [Delay in therapy can be disastrous, since B-12 is essential for DNA function in the brain and body]

Nutrition is a science, not guesswork. A deficient, imbalanced vegetarian diet won't work. [Nor will a deficient, unbalanced non-vegetarian diet! Ed.] But a wise, ample balance of good vegetarian food can support excellent growth of children and young people to heights as tall, or taller, than meat-eaters, and they are trimmer on average, helping to give a physiological head start against obesity. Also the vegetarian growth pattern for girls is superior, with a delayed growth spurt, giving them an edge on prevention of cancer of the breast.

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