

# Nutrition for the Very Young

**W**hat foods will keep tomorrow's kids strong and healthy? Nutrition and health needs of America's children—from conception to adolescence—are targets of studies at ARS' Children's Nutrition Research Center at Houston, Texas, and at ARS' Arkansas Children's Nutrition Center in Little Rock.

Here are some of the top-priority investigations the scientists will continue in the new decade.

**The ARS Children's Nutrition Research Center has been part of ARS since 1977 and is operated jointly with Baylor College of Medicine and Texas Children's Hospital. Studies under way there include:**

**Nutrients and genes** — Scientists at the Houston center are sleuthing differences in genetic makeup that may predispose kids to nutrition disorders later on, like obesity or cardiovascular disease. The new information should better equip tomorrow's healthcare professionals to intervene with recommendations specific to children with underlying genetic risks.

**Nutrients and prenatal development** — Researchers aim to discover more about maternal nutrition and permanent effects on a baby's health that may be linked to its mother's diet and nutritional status from about the time of conception through the pregnancy.

**Nutrients for early growth and development** — Scientists are investigating unique components of mother's milk that help keep babies healthy. Too, the

recent increase in multiple births of extremely underweight, very premature infants has sparked new studies of the unique nutrition needs of these unusually vulnerable babies.

**Body weight and body composition** — Scientists expect new experiments to reveal more about the genetic basis of childhood obesity and factors in the school and home environment that influence a child's food habits and choices. Their goals: new, more effective ways to combat childhood obesity and reduce obesity-related disorders such as

**"Children are our most precious natural resource and the key to this planet's future."**

—Dennis M. Bier, M.D.

high blood pressure and cholesterol.

**Plant nutrients** — Experiments by the center's plant scientists may reveal how to coax tomorrow's spinach, peas, or green beans to store more essential nutrients in forms kids can use. Today's spinach plants, for example, hoard calcium in crystal forms that nourish the plant but are not as biologically available to humans.

**Arkansas Children's Nutrition Center in Little Rock became the sixth ARS human nutrition research center in 1994 and is managed in cooperation with the Arkansas Children's Hospital Research Institute. Top-priority topics at the center are:**

**Phytochemicals** — Scientists are investigating often-healthy, plant-derived compounds called phytochemicals. They will determine whether the phytochemicals that are bound to soybean protein lead to developmental differences in children fed soy-based infant formulas, compared to those raised on mother's milk or cow's milk. Some 15 to 20 percent of America's babies are fed soy-based infant formulas.

Animal studies may indicate whether soy-fed infants have a lower risk of developing chronic diseases—such as cancer—later in life.

**Brain function** — Scientists want to find out how nutrition during infancy and childhood affects brain development and function, especially the capacity to pay attention and to learn. Studies may reveal, for example, how diet can benefit brain function in infants as young as 6 months.—By **Marcia Wood, ARS.**

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## 1960s

Path of carbon in photosynthesis determined (Calvin cycle).

Vietnam conflict began.

*Statistical Reporting Service and Economic Research Service established.*

**Phytochrome isolated; demonstrated role in controlling flowering and seed germination.**

**Gypsy moth pheromone discovered; proposed using sex attractants to disrupt mating.**

