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### TODAY'S FOOD: AS GOOD AS IT USED TO BE?

**“Your grandmother was right. Fruits and vegetables aren’t as healthy as they used to be...”** Sound familiar? Many articles in today’s media seem to carry that message. Is it true?

**They give the impression that crop producers, concerned with maximizing yields and profits, are bringing lower quality to the market; produce with lower levels of minerals and vitamins.** That’s been a worry for a long time, since yield trends are indeed increasing. But science shows you can’t generalize.

**A recent study from the University of Texas looked at changes in 43 garden crops over the past 50 years.** They found it difficult to compare analyses from 1950 with those from 1999 – the number of samples was small, and the locations and conditions of growth unknown. Even the names of several crops had changed over that time. But they thought their evidence sufficient to indicate declines in six out of the 13 nutrients they examined. The six nutrients were protein, calcium, phosphorus, iron, riboflavin, and vitamin C. They declined by 6% to 38%.

**What were the reasons?** The authors ruled out changes in soil fertility and the way the crops were fertilized. Why? Because their data showed that despite decreases of some nutrients in some crops, a substantial number improved as well. If soil fertility overall were declining, such increases would not be expected. Instead, they concluded that the differences came from selection in specific crops for characteristics other than nutrient levels.

**Producers select and grow varieties that will be attractive on the market.** In some cases, the qualities that attract consumers are consistent with increased nutrient content. For example, the preferred orange color of carrots and sweet potatoes goes hand-in-hand with more vitamin A. So it was not surprising to find that vitamin A levels in those two crops had more than doubled. The nutrients that decreased tended to be those that were less visible, and perhaps inconsistent with other traits consumers wanted. The decreases resulted from market responses to consumer preference, not changes in the way the crops were grown.

**Many other studies have shown that mineral fertilizers enhance food quality.** A study in Norway compared carrots produced on organic farms with those using mineral fertilizer. Those grown with fertilizer had higher beta carotene. Many other studies show positive impacts of mineral fertilizers: nitrogen and potassium enhancing carotenes, phosphorus and potassium enhancing lycopene, and potassium enhancing vitamin C.

**Producers know there can be trade-offs between yield and quality.** Wheat on the Canadian prairies is a well-known example: in years with good growth conditions, the bumper crop usually has low protein. In years of drought, the lower-yielding crop has high protein and better bread-making quality. But it’s not true for every ingredient. Recent research in Ontario found that isoflavones—healthful compounds in soybeans—increased in concentration with increasing yield, and oil and protein levels did not decrease. Studies on corn in both Illinois and Ontario found that nitrogen alone increased the levels of many minerals in the plant while boosting yield.

**Fortunately, the mineral fertilizers that nourish crops help them produce nourishing food. Choosing carefully, the consumer can still find food that’s as good as—or better than—it used to be.**

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