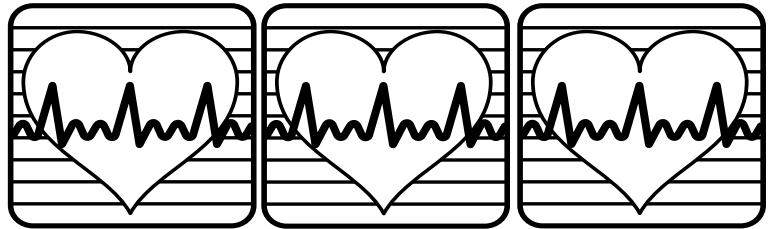


HEALTHLINE



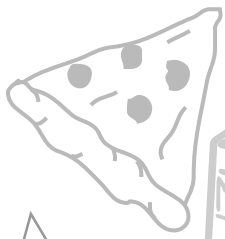
Agricultural research means more than increasing yields, reducing crop pests, and breeding for better quality. Many products are made **HEALTHIER**. Can you spot some below? Mark an X by those made possible by ARS research.

- 1. High-energy candy bars for use in school vending machines.
- 2. School lunch pizza that's lower in fat.
- 3. Pyramid-shaped bread to remind you that you need 6-11 servings every day from the bread group.
- 4. Low-fat snack cakes made with a low-calorie, high-fiber fat substitute.
- 5. Low-cholesterol milk bones to prevent heart attacks in dogs.
- 6. Tomatoes with a double-dose of lycopene.
- 7. Vitadrink for use in the Olympics.
- 8. Leaner steaks through genetic breeding.
- 9. Eggs with no yolks—to keep cholesterol low.
- 10. French fries made from rice.
- 11. High-fiber pasta for use in school lunches.
- 12. Lactose-free milk for you and your cat.
- 13. Low-sodium popcorn for use in movie theaters.
- 14. Winged beans used to treat acne.
- 15. High-calcium salsa.

ANSWERS: All even numbers are ARS research advances. Odd numbers are...well...perhaps they are *tomorrow's science!* See back side for some interesting success stories.

FOOD FOR THOUGHT—If you were an ARS research scientist, what types of healthy products would you like to develop?

Some of the most successful research is sponsored through multidisciplinary partnerships, for example, horticulturists and nutritionists working together with the food industry. Tell how you could develop your product through a partnership.



SOME

ARS *SUCCESS STORIES*



Pizza

The pizza you eat in school lunch may be made with an ARS-developed mozzarella cheese, which has less than half the fat of full-fat mozzarella. Using lower fat dairy products in school lunches helps keep fat intake down to about 30 percent of calories.

They have a mild taste that can be easily flavored with onions or spices.

In addition to providing a tasty snack that's lower in fat than traditional fries, rice fries would provide rice growers a new market for broken rice kernels. The new fry is not yet available. But french fry lovers may soon be saying "rice is nice."

Snack Cakes

Some snack cakes and many other reduced-fat products now on the market contain OATRIM—a low-calorie, cholesterol-fighting fat substitute made from oat flour. ARS licensed Oatrim's use to several companies, and it's now in a wide variety of products—even frozen dinners. Look for the term "hydrolyzed oat bran" on product labels. That's OATRIM!

Lactose-free Milk

This product is made for people who can't digest lactose—a sugar found in milk. By altering a bacterium used to make cheese and yogurt, ARS scientists found a way to break down milk sugar into its simpler sugars—glucose and galactose. Most lactose-intolerant people can drink this modified milk and digest it without discomfort. And the treated milk can be used in a whole range of dairy products, such as ice cream, yogurt, and cheese.

YES, lactose-free milk is even available for cats! Older cats, like older people, sometimes develop lactose intolerance.

Tomatoes

Through genetic engineering, ARS has developed a robust, slow-ripening tomato that has 2.5 times more lycopene than regular tomatoes. Lycopene is a PHYTONUTRIENT—a nutrient in plants that appears to promote health. It is only one of thousands of phytonutrients in fruits, vegetables, beans, grains, and seeds. Phytonutrients are a hot topic in nutrition/health research!

Winged Beans

Beans with wings? You got it! Actually winged beans are only one of many legumes having potential as future sources of drugs and other medicines. ARS maintains a special-purpose legume collection that is available for medical research. Many legumes are valuable sources of everything from insecticides to brain chemicals.

Winged beans, for example, have been used in research to determine how vaccines might be delivered in edible foods. They also contain erucic acid (an antitumor medication) and polyunsaturated fatty acids that can be used to treat eczema and acne.

Leaner Meat

Researchers are finding ways to produce leaner meat. They're creating genetic maps to pinpoint animals with a tendency to produce muscle versus fat, studying the impact of the animal's diet on its fat-to-lean ratio, and comparing breeds to find the lean animals.

Rice Fries

If you're like millions of other teens, french fries are one of your favorite foods. But guess what—they're high in fat! ARS has developed a fry made from rice flour that has 25-50 percent less fat than regular fries. Rice fries are crispy on the outside and fluffy white on the inside.



CHECK IT OUT

<http://www.arserrc.gov/dp/molecule.htm>
<http://www.ncaur.usda.gov/bp/bpr.htm>
<http://www.hort.wisc.edu/usdavcru/>
<http://www.nalsuda.gov/ttic/tektran/data/000010/47/0000104711.html>

<http://www.marc.usda.gov/>
http://www.arserrc.gov/dp/microorganisms_for_lactose_hydro.htm
<http://www.ars.usda.gov/is/AR/archive/nov96/>