

NUTRITION

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600 IU vitamin D (150% DV)

Pregnant & Lactating:

14 - 18 years:

1,300 mg calcium (130% DV)

200 IU vitamin D (50% DV)

19 - 50 years:

1,000 mg calcium (100% DV)

200 IU vitamin D (50% DV)

Percent Daily Value For

Calcium in Common Foods

To start you thinking about your dietary calcium intake, here's the approximate % DV for some common foods. Check actual food labels for a more exact amount. These amounts are based, in part, on information provided in: "Calcium! Do You Get It?," by the U.S. Food and Drug Administration/Center for Food Safety and Applied Nutrition at <http://vm.cfsan.fda.gov/~dms/ca-toc.html>

Grain Products Group

- Ready-to-eat cereal, calcium-fortified. Serving size varies, check product label.

Vegetable Group

- Broccoli with cheese; 1/2 cup = 20% DV

- Collards; 1/2 cup = 20% DV

- Turnip greens; 2/3 cup = 15% DV

- Kale; 2/3 cup = 10% DV

- Bok choy; 1/2 cup = 10% DV

- Broccoli; 1 stalk = 6% DV

Fruit Group

- Orange juice, calcium-fortified; 1 cup = 30% DV

Milk Group

- Yogurt; 8 oz. = 35%

- Milk, whole, 2%, 1%, skim, chocolate; 1 cup = 30% DV

- Cheese; 1 oz. = 20% DV

- Milk pudding; 1/2 cup = 10% DV

- Frozen yogurt; 1/2 cup = 10% DV

- Ice cream; 1/2 cup = 6% DV

- Soy milk, calcium-fortified; 1 cup = 30% DV

Meat & Bean Group

- Tofu with calcium sulfate; 3 oz. = 60% DV

- Baked beans with sauce; 1/2 cup = 8% DV

- Pork & beans with sauce; 1/2 cup = 6% DV

The main dietary sources of vitamin D are fortified milk (400 IU per quart), some fortified cereals, cold saltwater fish (for example: salmon, halibut, herring, tuna, oysters and shrimp) and some calcium and vitamin/mineral supplements. Also, vitamin D can be manufactured in your skin following direct exposure to sunlight. The amount varies according to time of day, season, and latitude. (AH)



CORN

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two different genes, both of which produce crystalline proteins that control corn borer but which act differently and have different rates of breakdown in mammalian digestion systems.

In the case of StarLink™, the Bt coding region was called Cry9(c) while the Yieldgard event (which is used in all other commercially available Bt hybrids) used a coding region from a different Bt gene called Cry1a(b). Bt proteins encoded by Cry9(c) bind to different mid-gut receptors in the larvae than proteins encoded by Cry1a(b).

The fact that Cry9(c) Bt proteins kill European corn borer by different modes of action than Cry1a(b), Bt proteins was seen as an advantage. By developing two different strains of corn with completely different modes of action against corn borer, plant breeders hoped to greatly postpone or eliminate any natural resistance to Bt corn that

might show up through natural selection processes.

This difference in Bt proteins is also the reason why there are food safety concerns with StarLink™ but not with Yieldgard. Tests that predict the rate of protein digestion in a human stomach demonstrated that StarLink's™ Cry9(c) encoded proteins digest more slowly than the Cry1a(b) encoded Bt proteins found in Yieldgard.

Because allergies to some foods such as nuts and wheat are caused by proteins that digest slower in the stomach, the EPA decided to wait for more information before approving the bacterial Cry9(c) protein found in StarLink™ for use in food products that will be consumed by humans.

The FDA did approve StarLink™ corn for release, but with very stringent constraints on its eventual use. It was not to be sold to processors for use in corn-

based products eaten directly by humans until more evidence was gathered about its safety for human consumption. It could be used to feed livestock and it could be used in ethanol plants.

Cross-contamination of StarLink™ with other types of corn in the grain handling industry and contamination resulting from pollen drift from StarLink™ fields onto neighboring corn fields, has resulted in cancellation of FDA approval for StarLink™ corn.

Testing kits have been developed to check corn samples for the presence of the StarLink™ gene, even when that contamination is present in very low concentrations. Processors are now routinely testing corn going into products for human consumption.

For information on controlling volunteer StarLink™ corn, see the Farm Views page in this issue of the NebLine.



What To Do About Swearing.

It may seem despite your best efforts to teach your children to express themselves without resorting to bad language, you are fighting a losing battle. These days explicit expletives are everywhere; many adults use swear words as part of everyday conversations; and kids hear them on the street, on television and radio, and at the movies.

If you want your children to avoid using unsavory vocabulary, two major obstacles must be overcome. First you need to subdue their natural inclination to use words that cause a stir; and secondly teach children restraint in a world that has little regard for such proprieties.

As preschoolers become

fluent, they notice what they say and how they say it makes an impression on those around them, especially adults. Words give little kids power and can be pretty heady stuff. As they become more and more talkative, using bad language can delight them because it gives them newfound powers to affect grownups.

Here are some tips:

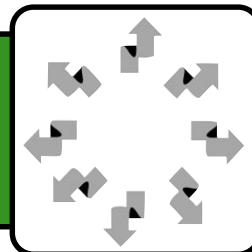
Don't overreact. "When a child cries out inappropriate language by calling someone a poo-poo head, for instance, it's important not to respond too strongly. The child, after all, is simply flexing his newly developed verbal muscles and delighting in the reaction that follows, observes child psychiatrist,

Paulina F. Kernberg. In "The Growing Years: A Guide to Your Child's Emotional Development from Birth to Adolescence."

Explain the impact of bad words. Let kids know their language may upset others or seem insulting. Once they understand the negative impact they will often drop it.

Practice what you preach. Parents need to be aware of how they manage their own anger and frustration. Kids may pick up unsavory speech from older kids, television, or the movies, but the single greatest influence on how young children communicate their feelings is what they hear at home. (LJ)

Miscellaneous



Soybeans Return to Forage Use

Soybeans are returning to their roots. The crop was first brought to the United States to be used for forage. Over time, plant breeders modified soybeans to use the oil and protein in the plants' seeds. Now, some varieties are being used for forage again.

These varieties differ from typical soybean plants because they grow over six-feet tall and mature late. In Nebraska, late-maturing soybeans produce mostly leaves and stems with relatively little seed, making them ideal for forage. The quality of soybean forage is similar to that of alfalfa.

When planted with corn or forage sorghum, silage made from the mix will be higher in protein and will have similar energy and palatability as corn or sorghum alone. Some produc-

ers rotate forage soybeans and corn on a yearly basis. Many producers use forage soybeans because the crop can be drilled in May and it may provide three- to six-tons of silage in just one harvest. Forage soybeans also don't require nitrogen fertilizer.

Using soybeans for forage is a relatively new idea, but it can benefit producers during times of low crop prices, high nitrogen prices, and tight forage supplies. Buy seed as soon as possible, because the seed supply is expected to be tight this year. If forage types are unavailable, tall, extra-late varieties often provide similar results, although they have slightly lower yields.

SOURCE: Bruce Anderson, Ph.D., hay and forage specialist, NU/IANR. (TD)



GENETIC

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gene is then inserted into the nucleus of a plant cell. The trick is to successfully graft the new gene into a chromosome of the plant so it will be expressed as desired without disrupting other genes that are essential for plant growth. It may require literally thousands of gene splicing attempts before the new genetic material is successfully incorporated into the plant in just the right way so the gene will function as desired, while preserving the naturally occurring qualities of the original plant.

Scientists can then grow these single plant cells in the laboratory causing them to multiply until they form a clump of cells called a callus. The callus is then transferred to a different growth media that has the correct ratio of plant hormones to induce the cells to differentiate into the

structures we would recognize as different parts of a plant (embryos, shoots, roots, etc.). Using long-established methods for vegetative reproduction, cuttings can be taken from these plants to make other plants that have identical genetics. This process is what is done when a greenhouse worker takes cuttings from a plant, applies a rooting hormone and produces new plants from the cuttings.

Finally, traditional plant breeding techniques are employed to cross the genetically modified plants with established inbred lines. Through selective breeding and backcrossing, the new genes are incorporated into commercial hybrids. Source: "Principles of Applied Biotechnology Workshop", Don Lee, Deana Namuth, and Patricia Hain, UNL.



CONTROLLING

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proposal Aventis has made to the U.S. Food and Drug Administration), the more effective strategies outlined may provide acceptable volunteer control in corn. Roundup, Touchdown, or other brands of glyphosate can be used for volunteer StarLink™ corn control in Roundup Ready corn and would offer the most effective herbicide option. Lightning used with "IMI" seed corn will provide good control of volunteer StarLink™ corn, but is not as effective as Roundup, Touchdown, or other glyphosate brands. Liberty will not control volunteer StarLink™ corn

because StarLink™ corn is Liberty resistant.

Grain Sorghum

There are no effective herbicides available for volunteer corn control in grain sorghum. Paramount applied post emergence to small (less than four inches tall) volunteer corn would provide some suppression; however, it is not nearly as effective as the herbicides available in soybean or corn.

Source: Alex Martin, NU Extension Weeds Specialist. (TD)