

# You Asked It! Tips From the Rapid Response Center

KANSAS STATE UNIVERSITY AGRICULTURAL EXPERIMENT STATION AND COOPERATIVE EXTENSION SERVICE

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# What is CRISPR?



Editing of a genome using CRISPR-Cas9 Photo: National Institutes of Health

The challenge of feeding 10 billion people by 2050 seems impossible. But, with the advancement of science, one new tool, CRISPR gene editing, could be an answer to food production that is sustainable, nutritious, safer, less wasteful and more.

What is CRISPR? It stands for Clustered Regularly Interspaced Short Palindromic Repeats. Within a species, a gene or DNA is precisely edited without adding genes from another species (i.e. transgenic). Because of this, the process is quicker and <u>does not need to pass as</u> <u>many regulatory hurdles as other methods</u>.

There are two parts to this technology. In the picture at left, the Cas9 protein acts like a socket wrench (top of the picture). Specific RNA guides, CRISPRs, act like the socket heads. The RNA guides direct the Cas9 protein to the correct area on the DNA strand that controls a specific trait (bottom of the picture). This technique is targeted and in real-time.

This technology is being used in research to develop low-gluten wheat, leaner pigs, disease resistant cacao, rice and citrus plants, food crops with greater yield and others.

Sources: National Institutes of Health, Food Technology, March 2018, <u>www.ift.org/</u> IFTNEXT/041018.aspx

# IFT*NEXT*

Keeping up with the constantly changing world of food is a challenge. One source of the latest information in food science is through the Institute of Food Technologists newsletter IFTNEXT. You can subscribe to this weekly newsletter at <u>http://info.ift.org/</u> <u>subscribe-to-the-iftnext-</u> <u>newsletter</u>. You do not have to be a member of IFT. So it is free! Past issues of the IFT-NEXT newsletter can be found at <u>www.ift.org/</u> <u>iftnext.aspx</u>.

## **All Produce Matters**

Each year, a new list of so-called "Dirty Dozen" produce is published by the Environmental Working Group (EWG), a nongovernmental organization. But, look for the facts and you'll see that the foods on this list are really not a problem.

The fact is conventionally grown and organically grown produce are both treated with pesticides for pest protection. The levels, however, are extremely low that they are below federal guidelines.

These types of reports raise fear in many shoppers. This can lead to many shoppers simply not buying fruits and vegetables at all. This is unfortunate as most consumers don't eat enough

**Testing for Mold in the Home** 

fruits and vegetables anyway.

Bottom line, choose and eat all fruits and vegetables, fresh, frozen, or canned to improve your daily nutrition.

Sources: www.foodinsight.org/ dirty-dozen-2018-pesticidesorganic-conventional-producefruits-vegetables-science and www.bestfoodfacts.org/should-ibe-worried-about-the-dirtydozen/



Photo: USDA

Learn more at www.epa.gov/mold

Is sampling for mold needed? In most cases, if visible mold growth is present, sampling is unnecessary. Since no EPA or other federal limits have been set for mold or mold spores, sampling cannot be used to check a building's compliance with federal mold standards. Surface sampling may be useful to determine if an area has been adequately cleaned or remediated. Sampling for mold should be conducted by professionals who have specific experience in designing mold sampling protocols, sampling methods and interpreting results.

## **Check Your Mouth!**

Here's something to ponder. Oral cancer kills one person ever hour of every day in America. Many people have never heard of oral cancer and just how deadly it can be. Other names include mouth cancer, tongue cancer, tonsil cancer, and throat cancer.

How can you prevent oral cancer? Some daily simple steps include brushing and flossing your teeth, don't smoke or chew tobacco. Check your mouth and throat by looking in a mirror with a flashlight shining into your mouth. Look for lumps, swelling, anything unusual.

For more information, check out the <u>Oral Cancer Foundation</u> and <u>checkyourmouth.org</u>.





## 2018 Kansas Health Symposium

Want to learn more about building up health in your community? The 2018 Kansas Health Foundation Symposium is just for you!

Registration is now open for this symposium to be held June 7-8, 2018 in downtown Wichita, KS. The theme for the symposium is "**It's All Health: Steps to Build Vi-brant Communities**." Speakers include education expert Geoffrey Canada, Citizen University president Eric Liu, and CBS News journalist Steve Hartman, among others. The focus is on key aspects needed to have strong, healthy and prosperous communities in the future.

The symposium is open to those in education, business, health care, community leadership, government, or if you just simple care about your community. Register now as attendance is capped at about 200 for space reasons.



Learn more at <u>https://kshealthsymposium.blog/</u> and see links for the agenda and registration.

## What is a Thawing Tray?

If you forget to plan ahead for meals, you will likely have frozen meat to use, but not enough time.

One gadget on the market intended to help speed the thawing of frozen meat is a thawing tray. This is made of a metal and is supposed to thaw frozen meat in minutes. But this may not always be successful. It will depend on the type of metal, the metal thickness, the thickness and how flat the piece of meat is, and how often the meat is flipped over for even thawing.

In the end, this may not be a good buy. Plan ahead and thaw meat in the refrigerator or in cold water, in the microwave or as part of the cooking process. The Big Thaw

Learn more about safe defrosting methods at https://bit.ly/2fJ3LZ4.



#### **Kids Cook Monday**

To help encourage kids to cook, learn strategies to implement Kids Cook Monday in a webinar scheduled for Monday, April 23, 2018.

This webinar will explain The Kids Cook Monday initiative and why it is beneficial to schools and communities. It focuses on parents and children cooking together to focus on healthy eating and healthy lifestyles. There are many benefits of children and parents preparing meals together, including better health and nutrition, academic skills, and the start of healthy behavior patterns. The webinar will also explain why Monday is the best day to begin this practice, and convey effective ways to implement and maintain The Kids Cook Monday program.

Webinar information and details can be found at <u>https://learn.extension.org/</u> events/3413.

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## **Screen-Free Week!**



Just put it down and walk away. Discover the joy of life without looking at digital entertainment. From April 30-May6, 2018, unplug with Screen-Free Week. Just think of the possibilities from playing, reading, daydreaming, exploring, and hanging out with family and friends!

Why celebrate this concept? It is evident that digital entertainment

is dominating kids lives. Too much screen time is linked to poor school performance, obesity, and attention difficulties.

To help you plan screen-free events, there are handouts in English and Spanish available at <u>www.screenfree.org/</u> under the "Essential Handouts" tab. There are also ideas to keep this going beyond Screen-Free Week under the "Additional Resources" tab.

While this event is targeted to children, adults can benefit from putting down the screen and enjoying some time with family and friends.



Karen Blakeslee, M.S.



#### On the Web at <u>www.rrc.ksu.edu</u>



## GetOutdoorsKS

The weather will improve, I just know it! To help you get outside and enjoy the great outdoors,



the Sunflower Foundation: Health Care for Kansans and other partners have collaborated to promote healthy living in a variety of ways. **GetOutdoorsKansas** is available to help you plan your activities. It encourages healthy, active outdoor lifestyles; conservation, awareness and respect; natural resources stewardship; and recreation participation.

#### Learn more at

www.getoutdoorskansas.org/, follow them on Facebook, and download the app to your phone to plan activities on the go.