Genome of tomato has been fully mapped

<u>By Kay Melia</u>

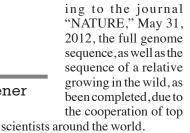
Master Gardener vkmelia@yahoo.com Most of us wouldn't know a genome from a giraffe. For the record, a giraffe is a long-necked quadruped, found in the zoo and in African jungles, and has nothing to do with what you are about to read. But I think I have your attention now.

On the other hand, a genome, simply put in layman's terms, is a kind of road map of the genetic makeup of just about any living organism you can name. If it were possible to "decode" that makeup, say of a tomato, then plant geneticists would



likely have the capability of improving yield, nutrition, flavor, disease resistance and color of the tomato. as well as other crops. Well, hang on to your spading fork and listen closely!

The decoding of the tomato genome, after decades of effort, has been accomplished!! Accord-



A global organization known as the Tomato Consortium, is responsible for the the break-through. Dr. James Giovannoni, a scientist at the Boyce Thompson Institute for Plant Research located on the campus of Cornell University, led the American effort.

So what, you may ask, does all species. this mean to the average backyard tomato gardener? Well, it so happens that a tomato possesses 35,000 genes, arranged on 12 chromosomes. Dr. Giovannoni said "Just name any characteristic of a tomato, and we have captured virtually all those genes."

That capture will allow scientists to move quickly to produce new varieties of tomatoes with specific characteristics such as better taste, higher yield, and perhaps even better shipping quality from farm to supermarket. The discovery even riculture reports that Americans has implications for other plant consume, on average, 72 pounds of

Strawberries, apples, melons, bananas and many other fleshy fruits world's favorite garden product, share some of the same genetic and represents an annual 82 billion makeup as tomatoes, so information about the genes and pathways involved in fruit ripening can potentially be applied to them.

Whereas the first tomato genome decoding came at a cost of millions Institute, Cornell University, the of dollars, future sequencing might cost only \$10,000 or less, by building on the initial findings concerning tomatoes.

The U.S. Department of Ag-

tomatoes per person annually.

The tomato has long been the dollar market in America alone! This is probably the most important scientific breakthrough in garden produce, ever!

Dr. Giovannoni, the Thompson USDA, and many other nations have played a part. Tomato lovers, everywhere say "thank you" and we'll all be watching closely for results we can all understand.

Weather conditions lead to early maturity in squash

Summer squash such as zucchini and scallops are harvested while immature. Pumpkins and winter squash such as acorn, hubbard and butternut are harvested later, in the mature stage, after the rind is tough and seeds have developed. Pumpkins are also classified as winter squash and share the same basic characteristics including harvest recommendations.

We normally think September is the time that winter squash is harvested. However the hot weather, drought and poor condition of the vines has led to early maturity of some fruit.

There are two main characteristics that help tell us when winter squash are mature: color and rind toughness.

Winter squash change color as they become mature. Butternut

Use caution on door-to-door sales

By Derek Schmidt

Attorney General of the State of Kansas

This time of year, our office receives many complaints from consumers regarding door-to-door sales. Lately, we've seen an increase in these complaints, especially those regarding the sale of meat and security systems. So, here ar a few tips to help keep you safe from highpressure sales, which may even be out-right scams.

Know your rights. Kansas law guarantees you three days to cancel any purchase of \$25 of more made in your home or at a location that is such as "restaurant quality," ask not the permanent place of business the company which USDA grade is or local address of the seller. This is comparable. For addition informaoften referred to as the "Cooling-Off Rule." The salesperson must verbally inform you of your cancellation rights at the time of sale. You also must be given two copies of a cancellation form and a copy of your contract or receipt. The contract or receipt must be dated, show the name and address of the seller, be in a large legible font and explain your right to cancel. The contract or receipt must be in the same language used in the sales presentation. If you wish to cancel and did not receive two copies of the cancellation policy, for your records, be sure to copy the signed and dated policy that you are mailing to the company. It is also suggested you send this cancellation by certified mail so you can track it. Companies are then required to refund the customer's money within 10 days of receiving the cancellation. Under this Cooling-Off Rule, it is also against Kansas law for the salesperson or the company to cash your check within this three-day period.

dana belshe ag notebook

changes from light beige to deep tan. Acorn is a deep green color but has a ground spot that changes from yellow to orange when ripe. Gray or orange is the mature color for hubbard and orange is the color for pumpkins.

Hard, tough rinds are another characteristic of mature winter squash. This is easily checked by trying to puncture the rind with your thumbnail or fingernail. If it easily penetrates the skin, the squash is not yet mature and will lose water through the skin -- causing the fruit

information about the product on

the label. On raw products, species,

cut, net weight, ingredients and safe

handling instructions are required.

No ingredient, including marinades

or other flavorings, may be added

to fresh meat or poultry unless the

Beware of any dealer who wants

you to purchase bluk quantities

of meat and poultry that are not

properly labeled. Always ask the

dealer to leave the box or labeling

information is individual products

If a product is labeled with a term

are not labeled.

ingredient is listed on the label.

to dry and shrivel. Also, immature fruit will be of low quality. The stem should also be dry enough that excessive water stem.

placing them in a warm, dry location for about 10 days. Choose a location that has stable temperatures and won't drop below 50 when we get to colder nights. The best curing is doesn't drip from the achieved at 80 to 85 degrees F and 80 to 85 percent relative humidity

Pumpkins should be cured by without water touching the pump- cool with elevated humidity. Ideal kins. Such conditions are difficult conditions would be 55 to 60 defor a homeowner to produce, but should be attempted. Butternut, humidity. Under such conditions, acorn, turban, hubbard and other acorn squash will usually last about squash types should be moved directly into storage without curing. Winter squash should be stored

grees F and 50 to 70 percent relative five to eight weeks, butternuts two to three months and hubbards five to six months.

Worship warms the heart

Calvary Gospel Church

Pastor: Randy and Mary Payne Fourth & College • 890-3605 Sunday: Kid's Church: 10 am Morning Service: 8:30 and 10:30 am Prayer and Praise: 5:00 p.m. except last Sunday of the month Wednesday: Royal Rangers, Missionettes 6:30 p.m. during school year Youth @ the Rock House, Sixth & Caldwell: 6:30 p.m. *Life Groups - Call for information* Join us on Facebook www.calvarygospel.net

Goodland United Methodist

Church 1116 Sherman 899-3631 **Pastors**: Dustin and Shelly Petz Saturday: Worship: 5:30 p.m. Sunday: Adult Classes: 9:15 a.m. Worship: 10:30 a.m. Wednesday: Wednesday Nite Live 5:45 - 6:45 p.m. Simple Supper "Free will Offering 6:30 - 7:30 p.m. Classes for all ages

Bible Baptist Church

Pastor: Clifford Middlebrooks Fifth & Broadway 890-7368 *Sunday*: *Sunday School: 9 a.m.* Morning Service: 10 a.m.

Pleasant Home Church Serving the rural community Celebrating 125 years of God's gracous blessings! *Rt.* 1, *Box* 180 • 3190 *Road* 70 (785) 694-2807 **Pastor**: Perry Baird **Sunday**: Worship Service: 9 a.m. Sunday School: 10 a.m.

Our Lady of Perpetual Help

Celebrant: Father Norbert Dlabal

307 W. 13th • 890-7205

Sacrament of Reconciliation:

Mass Schedule:

Saturday: 6 pm, Sunday: 10:30 am

Spanish Mass:

Sunday: 12:30 pm

5-5:45 p.m. Saturday or by appointment

Church of Jesus Christ of Latter-Day Saints

1200 15th Street • Burlington, CO (719) 346-7984 Sacrament Meeting: 10 a.m. Sunday School: 11:15 a.m.

Priesthood/Relief Society: 12 a.m.

Promiseland Baptist Church

Pastor: Rick Holmes • 890-7082 225 W. 16th (785) 890-7944 Sunday: Sunday School: 10:30 a.m. Morning Service: 11:30 a.m. Evening Service: 6:30 p.m. Wednesday: Bible Study Service 6:30 p.m.

Iglesia Del Dios Vivo

La Luz Del Mundo Spanish Speaking Church - translation available Minister: Jose S. Lopez 1601 Texas • 899-5275 Daily Prayer: Sunday thru



Meat sales

Ask for documentation. Ask for written information of the company and dealer and take plenty of time to read it. If you lack the time to check into the distribution practices of the company, consider not purchasing at that time. Once you have read the information and researched the company, you can contact tham to come back and make a purchase then.

Reputable companies will have a local sales office with a published price list that includes the address and phone number of the company. Along with the price list, the company may offer recipes and nutritional information about its products. You can also check the company online through the Better Business Bureau at www.bbb.com.

inspection legend or "bug" and give observed and protected.

tion contact the USDA Meat and Poultry Hotline at (888) 674-6854 or www.fsis.usda.gov.

Ask to see a retail food permit. In Kansas, door-to-door meat salespersons are required to have a state license or permit to sell meat, just like a regular retailer. Ask to see the salesperson's license to sell.

Contact the Kansas Department of Agriculture at (785) 296-5600 to see if the company is licensed. State or federal inspections are mandatory for meat and poultry being transported and wold within Kansas. The state inspection programs must enforce requirements at least equal to those of federal inspection laws.

Compare the price. Meat is required to be priced by the pound so you can comparison shop.

Security alarm companies Do your research. Some cities require security alarm companies to have a license, including Topeka and Wichita. Some even require each technician installing an alarm to be licensed.

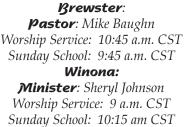
Make sure you know what your city requires by calling your city hall, and ask any technicians who come to your door to show you the appropriate license. Before you install an alarm system, check the company through the Better Business Bureau website at www.bbb. com.

Check your contracts. If you have a current alarm and they want to replace your old system, make sure you are not still obligated through a contractual agreement with your current security company.

Remember, it's always best to control your own transactions, rather than giving in to a high-pressure salesperson standing at your doorstep. If you experience any proglems with door-to-door sales, please call our consumer protection division at (800) 432-2310 or go Look at the label. U.S. Department online to www.ag.ks.gov to file a of Agriculture- and state-inspected complaint. It's our job to make sure products are required to have the Kansans' rights as consumers are

Evening Service: 6:30 p.m. Wednesday: Evening Bible Study: 7 p.m.

United Methodist Church



Church of the Nazarene

Pastor: Bob Willis Third & Caldwell 899-2080 or 899-3797 Sunday: Sunday School: 9:45 a.m. Worship Service: 10:50 a.m. Evening Service: 6 p.m. Wednesday: Evening Service: 7 p.m.

First Baptist Church

Pastor: Travis Blake 1121 Main 890-3450

Sunday: Coffee fellowship: 9:30 a.m. Morning Worship: 10 a.m. Sunday School: 11:15 a.m. **Thursday:** Bible study 9:30 a.m. Wheatridge Center

Seventh Day Adventist Church 1160 Cattletrail **Pastor:** Jim McCurdy Saturday: Sabbath School: 9:30 a.m. Worship Service: 11 a.m.

Emmanuel Lutheran Church 13th & Sherman • 890-6161 **Pastor:** Darian Hybl **Sunday:** Christian eduction/fellowship: 10:15 a.m. Worship Service: 9 a.m.

Saturday: 5a.m. & 6 p.m. **Sunday**: Sunday School: 9 a.m.

First Christian Church (Disciples of Christ) **Pastor:** Rev. Carol Edling Jolly

Eighth & Arcade • 890-5233 Sunday: Church School - All ages 9:15 a.m. Worship 10:30 a.m. Youth Group: 1st and 3rd Sundays 5-7 p.m. Thursday: Prayer Class - Noon Pastor Carol's Class 5:30 p.m. www.goodlandfccdoc.org

St. Paul's Episcopal Church

Celebrant: *Father Don Martin* 13th & Center Church 890-2115 or 890-7245 Services: 5 p.m. Saturday evening Bible Study: 4 p.m. the first and third Saturday of the month

> H2O Church.TV **Pastor**: Craig Groeschel 1022 Main (785) 728-0123

Experience Time Sunday: 10:30 a.m.

Kanorado **United Methodist** Church

Pastor: Leonard Cox 399-2468 Sunday: Sunday School: 9 a.m. Worship Service: 10:15 a.m.

Goodland Bible Church

109 Willow Road • 899-6400 **Pastor**: Chad DeJong *Sunday*: Sunday School: 9:30 a.m. Morning Worship: 10:45 a.m. 6 p.m. AWANA during school Evening Worship: 7:30 p.m. Wednesday: 6:30 youth group Growth groups call for information www.goodlandbible.org

Harvest Evangelical]ree Church

521 E. Hwy. 24 • 890-6423 **Pastor**: Brian Fugleberg Sunday: Worship: 10:30 a.m. Sunday school: 9:30 a.m.

Wednesday:

Senior High: 6:30 p.m. at the church Junior High: 6:30 p.m. at the church www.goodlandefree.com

Church of Christ

401 Caldwell 890-6185 Sunday: Bible Study: 9:45 a.m. Worship Service: 10:45 a.m. Wednesday: Bible Study: 7 p.m.

The following sponsors urge YOU to attend your chosen House of Worship this Sabbath:

Short & Son Trucking Koons Juneral Chapel North Main Hwy.24

Good Samaritan Center 208 W. 2nd

Goodland Star-News 1205 Main St.

KLOE/KKCJ/KWGB 3023 W. 31