

Genome of tomato has been fully mapped

By Kay Melia

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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



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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-

ing to the journal "NATURE," May 31, 2012, the full genome sequence, as well as the sequence of a relative growing in the wild, as been completed, due to the cooperation of top scientists around the world.

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 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 has implications for other plant

species. Strawberries, apples, melons, bananas and many other fleshy fruits share some of the same genetic 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 of dollars, future sequencing might cost only \$10,000 or less, by building on the initial findings concerning tomatoes.

The U.S. Department of Agriculture reports that Americans consume, on average, 72 pounds of

tomatoes per person annually. The tomato has long been the world's favorite garden product, and represents an annual 82 billion dollar market in America alone! This is probably the most important scientific breakthrough in garden produce, ever!

Dr. Giovannoni, the Thompson Institute, Cornell University, the 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



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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

to dry and shrivel. Also, immature fruit will be of low quality. The stem should also be dry enough that excessive water doesn't drip from the stem.

Pumpkins should be cured by 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 achieved at 80 to 85 degrees F and 80 to 85 percent relative humidity

without water touching the pumpkins. Such conditions are difficult for a homeowner to produce, but should be attempted. Butternut, acorn, turban, hubbard and other squash types should be moved directly into storage without curing.

Winter squash should be stored

cool with elevated humidity. Ideal conditions would be 55 to 60 degrees F and 50 to 70 percent relative humidity. Under such conditions, acorn squash will usually last about five to eight weeks, butternuts two to three months and hubbards five to six months.

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 are a few tips to help keep you safe from high-pressure sales, which may even be out-right scams.

Know your rights. Kansas law guarantees you three days to cancel any purchase of \$25 or more made in your home or at a location that is not the permanent place of business or local address of the seller. This is often 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.

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 them 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.

Look at the label. U.S. Department of Agriculture- and state-inspected products are required to have the inspection legend or "bug" and give

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 ingredient is listed on the label.

Beware of any dealer who wants you to purchase bulk quantities of meat and poultry that are not properly labeled. Always ask the dealer to leave the box or labeling information is individual products are not labeled.

If a product is labeled with a term such as "restaurant quality," ask the company which USDA grade is comparable. For addition information 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 sold 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 problems with door-to-door sales, please call our consumer protection division at (800) 432-2310 or go online to www.ag.ks.gov to file a complaint. It's our job to make sure Kansans' rights as consumers are observed and protected.

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

Our Lady of Perpetual Help

Celebrant: Father Norbert Dlabal

307 W. 13th • 890-7205

Sacrament of Reconciliation: 5-5:45 p.m. Saturday or by appointment

Mass Schedule:

Saturday: 6 pm, Sunday: 10:30 am

Spanish Mass: Sunday: 12:30 pm

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

Pleasant Home Church

Serving the rural community

Celebrating 125 years of God's gracious 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.

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.

Bible Baptist Church

Pastor: Clifford Middlebrooks

Fifth & Broadway

890-7368

Sunday: Sunday School: 9 a.m.

Morning Service: 10 a.m.

Evening Service: 6:30 p.m.

Wednesday: Evening Bible Study: 7 p.m.

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.

United Methodist Church Brewster

Pastor: Mike Baughn

Worship Service: 10:45 a.m. CST

Sunday School: 9:45 a.m. CST

Winona:

Minister: Sheryl Johnson

Worship Service: 9 a.m. CST

Sunday School: 10:15 am CST

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

Kanorado United Methodist Church

Pastor: Leonard Cox

399-2468

Sunday: Sunday School: 9 a.m.

Worship Service: 10:15 a.m.

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.

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

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

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

H2O Church.TV

Pastor: Craig Groeschel

1022 Main

(785) 728-0123

Experience Time

Sunday: 10:30 a.m.

Harvest Evangelical Free 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

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 education/fellowship:

10:15 a.m.

Worship Service: 9 a.m.

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

Hwy. 24

Koons Funeral Chapel

North Main

Good Samaritan Center

208 W. 2nd

Goodland Star-News

1205 Main St.

KLOE/KKEJ/KWGB

3023 W. 31