



February 14, 2005

### **DATES TO REMEMBER**

February 23	Master Gardener class tests due
February 23	Master Gardener meeting
March 2	New Master Gardener Class
March 23	Master Gardener meeting and Pruning Demonstration

### **ANNOUNCEMENTS**

Meetings start at 6:30 p.m. and the program starts at 7:00 p.m. on the fourth Wednesday of each month unless otherwise noted. All meetings are held at the Tooele Extension Bldg.

The Lone Peak Conservation Center produces a wide variety of tree, shrub, and non-woody plant species for use in conservation plantings. The minimum order is 100 seedlings, and must be ordered in multiples of 25 plants. The greatest selection of species is available if you order as early as possible. See Patty in the Extension Office for order information.

### **COUNTY AGENT'S BRIEF**

by Clint Albrecht,  
USU Extension Interim Director

The search continues for a new Ag Agent. Applicants are being interviewed this week. We hope to have a new agent to introduce to you in the next newsletter. Thank you all for your help to serve the community during this time.

### **PRESIDENT BECK'S MESSAGE**

First, I extend a heartfelt **thank you** to Larry Sagers for his excellent presentation at our January meeting on flowers and vegetables that are new on the market this year. We had the new Master Gardeners with us so we had a capacity group. We also thank Larry for his guidance in laying out a plan for our activities during 2005. An outline of those plans is enclosed herewith.

We welcome Janeen Pond to our group. She received her Master Gardener training in Utah County. Janeen has accepted the assignment to be our volunteer coordinator for this season. I appreciate her for taking an activity survey of all past and present Master Gardeners. Requests for our services that come into the extension office will be relayed to Janeen who in turn will be contacting those who need volunteer hours to fill those demands. Those in the new Master Gardener class who need volunteer hours should feel free to call Janeen (833-9317) to let her know what your needs are.

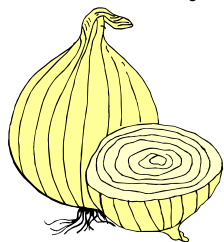
In an effort to get to know all of you better, I request that you wear some sort of a name tag to our meetings.

I have created a new standing committee. It will be responsible for completing the water wise garden in front of the extension office that was started by our former agent, Matt Palmer. Jeanne Long has accepted the chair responsibility for this project. If you would like to help her in this project her phone numbers are 837-2249 and [cell] 830-6362.

Ray Beck

## GARDENING TIPS

by Karen Dupaix



It's too early to get out and plant seeds in the garden, but it's exactly the right time to peruse the seed catalogs, order seeds, and plan out your garden. Get some graph paper and

sketch out where you'll be planting your vegetables. It's a good idea to rotate where you plant certain types of crops, to avoid problems with disease. Be sure to plan to plant what your family likes to eat, and try something new each year, too!

If you are planning on planting onions in your garden, it's best to start them from seeds indoors. A good variety for our area is Utah Sweet Spanish Onions. You need to start them now so that they will have a long enough growing season to produce a nice bulb. Plant the seeds in a seed flat and cover it with plastic wrap. Put it in a warm place to germinate. Once the seedlings pop up out of the soil, put them under lights that are adjustable so that you can keep the lights one inch above the growing plants. You'll plant them outside in about March.

Planting purchased onion sets (mini-bulbs) later in the season is an option, but the mature bulb size will not be as big, because the onions will try to go to seed.

## THE NATIONAL GARDEN BUREAU

Larry Sagers mentioned in his handout about new Varieties for 2005, that many of the seed sources were available at [www.ngb.org](http://www.ngb.org). This is the site of the National Garden Bureau. The National Garden Bureau was founded in 1920 to disseminate accurate information on gardening from seed. It is a non-profit organization with limited resources. Previously, all Bureau information was given to garden media or garden writers. This site now offers the same accurate information for you, the avid or novice gardener. This site appears to be a treasure trove of information for the gardener. The member directory gives you additional web sites sponsored by the members of the Bureau.

Member seed growers or retailers include: American Takii, Inc.; Applewood Seed Company; Ball Seed Company; Ernest Benary of America, Inc.; Bentley Seeds, Inc.; Botanical Interests, Inc., retailing under the name Garden Trails; W. Atlee

Burpee & Co; The Cook's Garden; Dominion Seed House; Floranova, Ltd; Goldsmith Seeds, Inc; Grimes Seeds & Plants; The Chas. C. Hart Seed Co; Hem Zaden BV; Johnny's Selected Seeds; Lake Valley Seed Inc.; Earl May Seed & Nursery; NK Lawn and Garden; Ontario Seed Company; The Page Seed Company; PanAmerican Seed; Park Seed Co; Renee's Garden; S&G Flowers; K Sahin, Zaden BV; Sakata Seed America, Inc.; Seeds by Design; Select Seeds—Antique Flowers; Seminis Garden; Territorial Seed Company; Vesey's Seeds, Ltd; and Wilhite Seed, Inc.

All of these companies have web sites. You could probably spend from now to planting time rummaging through the information available all from [www.ngb.org](http://www.ngb.org). Give it a try and see what you can find!

## Luther Burbank, Horticulturist Extraordinaire

Because Larry Sagers made a very interesting presentation at the January meeting on Luther Burbank, I thought it would be a good topic to cover in this month's newsletter, as Luther Burbank is a horticulture hero to me, as he is to Larry. Most of my material was derived from the City of Santa Rosa Luther Burbank Home and Garden site and the Luther Burbank Virtual Museum on the internet. My wife and I visited the gardens last summer and truly enjoyed a half day there. It was hard to believe the many, many cultivars developed by Mr. Burbank. His scientific experiments in agriculture changed farming in California and across the world. In his lifetime (1849-1926), Luther Burbank introduced over 800 new plant varieties, including the Shasta Daisy, the Santa Rosa Plum, and the Burbank Russet potato.

### Shasta Daisies

2001 marked the 100<sup>th</sup> anniversary of Luther Burbank's introduction of the Shasta daisy, one of America's most beloved garden flowers. Burbank spent 17 years developing this quadruple hybrid which he named after Mt. Shasta. Others have continued Burbank's work and many new varieties of the Shasta daisy have been introduced since Burbank completed his work over 100 years ago.

Luther Burbank had a great fondness for the wild oxeye daisies that grew under the elm tree in front of his family home. Many years later, the young plant-breeder was inspired to develop these wildflowers for use as garden flowers, and envisioned an ideal daisy:

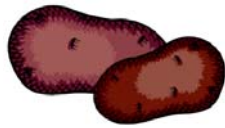
it would have very large pure white flowers, long blooming period, and be good both as a cut flower and garden plant. In order to achieve his goals he used four different plants, creating a quadruple hybrid.

He started with the oxeye daisy (*Leucanthemum vulgare*) and cross-pollinated it with the English field daisy (*Leucanthemum maximum*) which had larger flowers than the oxeye daisy. The best of these hybrids were then dusted with pollen from the Portuguese field daisy (*Leucanthemum lacustre*) and their seedlings were bred selectively for six years.

These bloomed nicely, but Burbank wasn't satisfied yet. He wanted whiter, brighter flowers. He took the most promising of these triple hybrids and pollinated them with the Japanese field daisy (*Nipponanthemum nipponicum*), a species with small, pure white flowers. Finally, he got the beautiful large white daisy that he was hoping for. He named it for the lovely glistening Mount Shasta in Northern California. The Shasta daisy hybrids were introduced in 1901 after 17 years in development.

### **Santa Rosa Plum**

If you enjoy juice plums in the summer, you should probably thank Luther Burbank! Before him, most plus were small, not very sweet, and mostly pit! Through very conscious experimentation, Mr. Burbank tried to breed the characteristics that he wanted (increased size, sweetness, transportability) and get rid of the unwanted characteristics (that big pit!). Luther Burbank is best known perhaps for the Santa Rosa Plum, still very popular today. When the fruit trees at the Sebastopol farm were carefully documented after Luther Burbank's death, over 100 different varieties of plums were noted. Many trees had 5-15 different fruit types on them.



### **Burbank Russet Potato**

Nearly all of the potatoes grown within the borders of the state of Idaho are one variety, the Russet Burbank. Although potato breeders have been working for more than forty years in the state in an attempt to improve the Russet Burbank variety, to date, no variety has been introduced that has proven a serious contender to this traditionally famous Idaho baker.

It is fortunate that scientists are in the habit of keeping journals and records of their experiments and work because it is from Luther Burbank's

journal that we find the following account of the origin of the Burbank potato.

In 1872 Luther Burbank found a single fruit (seed ball) growing in his New England garden planting of the potato variety Early Rose. Because Early Rose did not commonly set fruits, he watched this fruit throughout the season with an eye to harvesting it when mature. Unfortunately the fruit disappeared from the parent stem. Burbank decided that it would not have been attractive as food to bird or animal and started to look for it. He said, "so day after day I returned and took up the search again and at last, this patient search was rewarded. The missing seed ball was found." Luther Burbank found only twenty-three seeds in the fruit. When the spring of 1872 came, he planted the twenty-three seeds in the garden "as one would plant the seeds of beets or cabbage. The ground had been prepared with great care and each seed was placed about a foot from its neighbor in the row, but no special protection was given the seeds."

All twenty-three seeds grew and produced tubers. Two seedlings appeared better than the Early Rose parent and one of the two was distinctly better in yield and size of tubers. This better seedling proved itself in the summer of 1874. Burbank felt that this new seedling, which would produce two or three times as much as ordinary varieties, should be introduced to the public.

He said that the first dealer to whom he offered the new potato "declined it rather curtly." Burbank finally mustered up enough courage to try again. To bring the potato to the attention of J.H. Gregory of Marblehead, Massachusetts, he sent him a sample by way of introduction. Burbank wanted \$500 for the potato, but Gregory would pay only \$150. Luther Burbank used the money to move to California. He took with him ten tubers that Gregory allowed him to keep. Gregory named the variety Burbank Seedling (which subsequently became simply Burbank).

The ten tubers which Burbank took with him to California appeared to be the nuclear stock for the introduction of the Burbank variety to the West Coast states. By 1906 over six-million bushels of Burbanks were produced in these states. As late as 1949, 37,517 bushels of certified seed of Burbank were produced in California, Oregon, and Washington.

The fact that Burbank subsequently grew more than one-half million seedlings from a deliberate

hybridization program without producing another successful variety is also of interest.

### **Other Interesting Introductions**

**Paradox Walnut.** In creating the Paradox (the name means "a puzzle"), Luther Burbank was trying to create a hardwood tree that grew rapidly. Hardwood is used for high quality furniture, but hardwood trees grow slowly. Alas, although the Paradox grew quickly, and its wood was prized, it had a tendency to eventually dry out and crack. The Paradox walnut does not produce many nuts, but its leaves can be up to 3 feet long!

**Plumcots.** A plumcot is a cross between a plum and an apricot. Because of all the different types of plums and apricots, a plumcot can come in a variety of colors and flavors. Mr. Burbank's work with plumcots truly demonstrated the patience that a plant breeder needs: "Had I known how much time and labor and patience these experiments would demand, I might never have undertaken them," Mr. Burbank wrote. Yet he also felt that plumcots were "the first addition to the list of orchard fruits that has been developed within historical times." (*How Plants are Trained to Work for Man*)

**Van Deman Quince.** The quince produces a fuzzy fruit that is edible when it is ripe and well-cooked. When Mr. Burbank created a new species, he didn't just create new species for the growing climate in Sonoma County. In his time, the quince was a fairly common fruit, especially in the Midwest, so he worked hard to create new and improved quince species. Mr. Burbank was what we call today a "global thinker;" he thought about the needs of people all over the world. It took over 75,000 seedlings to produce this new quince species. Mr. Burbank claimed that, under the right conditions, this variety of quince could produce 3 different crops a year.

**Thornless Blackberries.** Mr. Burbank went through thousands of experiments, spending years to develop this plant. He started with a the dewberry and eventually crossed a thornless dewberry with his own creation the Himalaya blackberry. this was hard because thorns are a plant characteristic that will "dominate" when bred with thornless varieties. Mr. Burbank believes that this plant would become the main type of blackberry grown, but he was wrong. Mr. Burbank also created a "white" blackberry, one that had no pigment.

### **Summary**

Luther Burbank is credited with creating over 800 new plant species during his lifetime! Here are a few of his most famous creations. Some of these are widely grown today. Others were popular varieties in the past, but are not commonly found today. The dates given below are for when the species were introduced. In many cases, after introducing a species such as the Shasta Daisy, Luther Burbank created many variations on the original species. Dates for those years of experimentation are not given.

**Vegetables:** Burbank Russet Potato (1873), Crimson Winter Rhubarb (1900), Burbank Admiral Pea (1908), Santa Rosa Artichoke (1911), Rainbow Corn (1911), New Burbank Early Tomato (1915), Elephant Garlic (1919).

**Trees:** Paradox Walnut (1893), Royal Walnut (1893).

**Fruit:** Himalaya Blackberry (1885), Satsuma Plum (1886), Van Deman Quince (1893), Iceberg White Blackberry (1894), Burbank Cherry (1903), Rutland Plumcot (1905), Santa Rosa Plum (1906), Spineless Cacti (1907), Black Giant Cherry (1911), Robusta Strawberry (1920), Sebastopol Thornless Blackberry (1920), Gold Nectarine (introduced after his death), and Elberta Peach (introduced after his death).

**Flowers:** New Gladiolus hybrids (1899), Lemon Giant Calla Lily (1893), Tarrytown Canna Lily (1895), Burbank Rose (1899), White Agapanthus (1899), Shasta Daisy (1901), Mayflower Verbena (1901), Santa Rosa Dahlia (1903), Burbank Crimson California Poppy (1904), Santa Rosa Shirley Poppies (1904), Burbank's Giant Hybrid Amaryllis (1906), Hybrid Watsonias (1908), America Evening Primrose (1910), Hybrid Sunflowers (1914), Surprise Day Lily (1917), Molten Fire Amaranthus (1922), Tower of Gold Knophoria (*poker plant*) (1923), and Burbank Giant Dahlia Zinnia (1925).