

**Results:** 2004 Variety Trial

**2004 Vegetable and Flower Variety Trials  
Beets**

**Planting Overview:** WVU Extension with the assistance of Master Gardeners, conducted a vegetable variety trial of the following beet varieties: Chioggia, Ruby Queen, Golden, Carillon, and Egyptian Flat. 100% direct seeded beets into the ground between May 17 and June 13, 2004. A majority of the seeds were planted in single rows with no pre-treatment of the seeds. One out of six respondents indicated that they searched for information on the beet varieties on the Internet. All seeds were planted into clay or clay loamy soils ranging from brown to brownish black soil color and all but one were planted in full sun. Only one respondent indicated that they used irrigation on the trial plants. There was no spring frost reported after planting.

**Germination and Growth:** The number of seeds planted varied by variety with averages from the least of 22 seeds for Egyptian Flat, to the most with an average of 46 seeds for Ruby Queen. Ruby Queen had the best germination with 97%, followed by Chioggia with 72%, Egyptian Flat with 67%, Carillon with 62% and Golden with only 20% germination. The days from planting to harvest ranged from 58 days for Chioggia, to 80 days for Golden.

**Plant Growth Factors:** The only problem reported with the beets was holes in the leaves of all the varieties from one respondent. There was no report of scab, insect pests, leaf spot, other disease pests, or critter pest from the majority of respondents.

**Harvest Yields:** When comparing varieties by diameter of beets harvested the diameter averages ranged from Chioggia at 2.55", to Carillon at 1.8" diameter. Based on average leaf size, the averages ranged from Chioggia at 11.08" to Carillon at 8.2".

**Results:** Ruby Queen was ranked #1 (best) by the participants with Golden ranking #5. A majority of the participants indicated that they would purchase Ruby Queen again. Other rankings indicated that Carillon had the best raw and cooked flavor. Ruby Queen had the best flavor of leaves. Carillon had the best cooked texture. Other comments included: Color didn't stay after canning for the Chioggia; Golden vary in size and had a hard core center; Carillon was softer raw than cooked and grew out of the ground as it matured. The respondent indicating the use irrigation on the trials reported a total crop failure so irrigation was not a factor in this trial.

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### 2004 Vegetable and Flower Variety Trials Spinach

**Planting Overview:** WVU Extension, with the assistance of Master Gardeners, conducted a vegetable trial of the following spinach varieties: Rembrandt, Razzle Dazzle, Catalina, Whale Hybrid, and Melody Hybrid. 5 growers direct seeded from April 29 to May 7; 3 growers direct seeded from May 22 to June 9. Most growers planted single rows. One tilled the soil and added 10-10-10 prior to seeding.

**Germination and Growth:** Growers reported seeding from 10 to 49 seeds. Only 4 growers reported seed counts and germination and so an overall germination rate is difficult to determine. Germination was not consistent within variety and varied by grower. The highest germination rate was Rembrandt at 46% (ranged from 25% to 53% among growers). Catalina and Melody Hybrid each had 32% germination; while Whale Hybrid and Razzle Dazzle had germination rates of 25% and 21%, respectively. One grower reported crop failure for every variety. This grower planted on June 9, which was later than recommended for seeding spinach. Days from planting to harvest ranged from 38 days (Razzle Dazzle) to 42 days (Melody Hybrid). One grower reported that Melody Hybrid bolted (went to seed).

**Plant Growth Factors:** Growers reported few pest problems. One grower reported problems with rabbits on Catalina, Whale Hybrid and Melody Hybrid. One grower reported “bug damage” on Whale Hybrid, but did not detail the type of insect or the severity of the damage.

**Harvest Yields:** Growers reported poor yields for all varieties. Four growers reported failed crop for Rembrandt, Razzle Dazzle, and Whale Hybrid. Three growers reported failed crop for Catalina and Melody Hybrid. For growers reporting yields, the highest yield came from Catalina with 50 usable leaves from 10 feet of row in the first harvest. After initial harvest, Rembrandt was picked 0 to 5 times; Razzle Dazzle 0 to 4 times; Catalina 0 to 4 times; Whale Hybrid 0 to 4 times; Melody Hybrid 0 to 4 times. Melody Hybrid bolted the earliest, 41 days after seeding. Growers reported Razzle Dazzle as having the best overall yield.

**Descriptions:** Most varieties yielded light to medium thick leaves of medium to dark green color. Melody Hybrid had the best raw flavor, followed by Catalina and Whale Hybrid (same rating), Razzle Dazzle and Rembrandt. Whale Hybrid had the best cooked flavor, followed by Melody Hybrid, Catalina, Rembrandt and Razzle Dazzle. Finally, the cooked texture was rated the highest in Melody Hybrid, followed by Whale Hybrid and Catalina (same rating), Rembrandt and Razzle Dazzle.

**Results:** No variety was the overwhelming choice of growers. Whale Hybrid received the highest average overall ranking by growers; followed by Melody Hybrid, Catalina, Razzle Dazzle and Rembrandt, respectively. Although Whale Hybrid was ranked the best on average (3 growers ranked it the best), one grower ranked it the worst variety. Melody Hybrid and Catalina were ranked the best overall by two growers each.

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### 2004 Vegetable and Flower Variety Trials Lettuce

**Planting Overview:** In 2004 six WV Master Gardeners conducted WVU Extension Service sponsored lettuce field trials. Seven different varieties of lettuce were tested including Concept, Red Sails, Green Salad Bowl, Crisp n Green, Simpson Elite, Blackjack, and Envy. The majority of the trials used a single row planting system. In addition the majority of the trials were planted in June; however, one was started in late April. No pre-treatment of seed was used in any of the trials. Only one participant researched background information on the varieties.

**Germination and Growth:** An average of 14 seeds was planted per variety. The Red Sails trials reported the highest germination rate at 92%. This was followed by Green Salad Bowl (43%), Crisp n Green (40%), Simpson Elite (37%), Envy (36%), and Concept and Blackjack at 21 % each. Red Sails averaged 12 days to germinate at least five plants. Green Salad Bowl and Simpson Elite were next at 13 days to germination. Concept, Crisp n Green, Blackjack, and Envy each averaged 15 days to germinate at least five seeds.

**Plant Growth Factors:** No insect, disease, or animal damage problems were reported in any of the trials. One trial reported loss of seed due to heavy rains, but no other weather problems were recorded for the trials. No participants reported thinning the trial plots.

**Yields:** Concept averaged the fewest days to the first significant harvest at 34 days. This was followed by Red Sails and Simpson Elite at 37 days each. Green Salad Bowl and Envy each recorded 38 days to first significant harvest and Crisp n Green and Blackjack reported the longest period to harvest at 43 days each. Two of the participants reported a significant harvest through August for all varieties. Eighty percent of the participants stated that Red Sails and Envy produced at least an average harvest throughout the season. Seventy five percent reported at least an average harvest during the season for Crisp n Green while 60 % recorded the same for Green Salad Bowl, Concept, and Simpson Elite. Blackjack was last with 50 % reporting an average harvest. Red Sails, Simpson Elite, and Envy were able to be harvested once per week in 80% of the trials. This was followed by Concept and Crisp n Green at 75% of the trials and Green Salad Bowl and Blackjack at 60% and 50% respectively.

Also important to the yield is the length of leaf. Every variety averaged six inches in leaf length except for Envy which averaged five inches.

**Results:** Each variety was evaluated for raw flavor and raw texture on a scale of 1 being very good and 5 as awful. For raw flavor Red Sails averaged the best rating at 2.2. Next were Green Salad Bowl and Simpson Elite at 2.6, Concept and Blackjack at 2.7, Crisp n Green at 3, and Envy at 3.2. Red Sails was rated best in raw texture with 1.2. Concept, Crisp n Green, and Blackjack were second at 1.6. Envy followed at 2 and Green Salad Bowl rated last with a 2.2. All of the participants stated that they would purchase Red Sails again. Seventy five percent would purchase Concept, Green Salad Bowl, and Simpson Elite again. Sixty six percent would pick Crisp n Green and Blackjack again and 50% would buy Envy once more. An overall ranking was established on a scale of 1 being the best and 7 the least. At the top of the ranking was Red Sails at 1.7. Next was Crisp n Green and Blackjack with 3.3, Concept at 4, Envy at 4.2, and Green Salad Bowl with 5.2. All varieties were rated as having an average midvein except for Green Salad Bowl and Concept which were evaluated as having a small and large midvein respectively.

**Conclusion:** Red Sails clearly led all varieties in terms of overall ranking, flavor, texture, and germination rate. In addition it was the only variety for which 100% of the participants stated that they would purchase it again. Green Salad Bowl rated next best in terms of flavor, germination rate, repurchase rate, and has a small midvein. This must be viewed, however, in the context of the fact that it received the lowest rating for the overall category.

## Results: 2004 Variety Trial

### **2004 Vegetable and Flower Variety Trials Celosia**

**Planting Overview:** A WVU Extension Service sponsored celosia flower variety field trial involving five WV Master Gardeners was conducted in 2004 on the following celosia varieties: Century Mix, Prestige Scarlet, Chief Mix, and Wheat Kosmo Purple Red. The majority of the trials were planted in middle to late May using both double and single row plantings. Clay soils predominated in the trials and no irrigation was used. The majority of the plantings were in full sun.

**Transplant Survival and Growth:** All trials planted six plants per variety. The Prestige Scarlet and the Wheat Kosmo Purple Red trials reported a 100% survival rate, whereas, Chief Mix reported a three percent loss and Century Mix reported a seven percent loss. Three of the trials reported blooms on all varieties of the transplants within 24 hours of planting. The remaining 2 trials did not produce blooms for 18 to 33 days.

**Plant Growth Factors:** None of the celosia trials evidenced any disease or insect problems. However, deer damage was reported in one trial in Century Mix and Chief Mix only. Another trial reported having “chewed stalks” in those two varieties as well. The taller Century Mix and Chief Mix varieties required staking in 40% of the trials even though Chief Mix boasts having “sturdy plants with long, strong stems”.

**Yields:** In terms of plume height and diameter of the tall varieties, Century mix produced the best growth at six inches in height and four inches in diameter. Chief Mix followed at three inches by three inches. However, in both cases, the plume heights were significantly less than projected by the seed catalog claims of 8”-10” and 4”-7” respectively. Both of the smaller varieties, Prestige Scarlet and Wheat Celosia Kosmo Purple Red, met the plume size indicated by their catalog descriptions. In overall height, Chief Mix averaged the tallest at 15” and Wheat Kosmo Purple Red (a dwarf) was the smallest at 5”. The most prolific bloomer was Wheat Kosmo Purple Red which averaged 14 blooms per plant. Chief Mix averaged 13 blooms followed by Prestige Scarlet at 11 and Century Mix at 6 blooms per plant.

**Results:** The participants rated each variety for overall yield on a scale of 1 (best) to 5 (least). Century Mix was rated best with an average rating of 2 followed by Prestige Scarlet and Wheat Kosmo Purple Red at 2.5, and Chief Mix at 3. Participants were also asked to provide an overall ranking of the varieties based on the same 1-5 scale. As a result Wheat Kosmo Purple Red averaged the highest ranking at 2.2 followed by Century Mix at 2.4, Prestige Scarlet at 2.6, and Chief Mix at 2.8. Eighty percent of the participants also stated that they would buy both Century Mix and Wheat Kosmo Purple Red again. Sixty percent would purchase Prestige Scarlet again and 40 % would buy Chief Mix again. All of the varieties had trials with celosia blooming through October 15.

**Conclusion:** Both Century Mix and Wheat Celosia Kosmo Purple Red were rated highest in the trials by the Master Gardener participants. Century Mix was rated best for plume height and overall yield, whereas, Wheat Celosia Kosmo Purple Red was best in bloom yield and overall celosia. In addition, the majority of the participants reported that they would buy these two varieties again. For a good performing celosia in both the tall and dwarf categories, Century Mix and Wheat Celosia Kosmo Purple Red respectively were the pick of the trials.

**Results:** 2004 Variety Trial

## **2004 Vegetable and Flower Variety Trials Large Marigolds**

**Planting Overview:** WVU Extension Service, with the assistance of Master Gardeners, conducted variety trial of the following Large Marigold varieties: Crackerjack, First Lady, Antigua Mix, and Inca II Hybrid Mix. Eighty-three percent were direct seeded into the ground between May 4 and June 7, 2004. The remaining 17% was seeded into cell packs. No pre-treatments were done on any of the seeds. Half of the growers searched for more information about each of the flower varieties.

**Germination and Growth:** Seeds planted per variety varied from a low of 4 to a high of 10. Inca II Hybrid Mix had the best germination with 15%, followed by Antigua Mix at 12%, First Lady at 10%, and Crackerjack at 2%. The growers did not report any problems with the varieties in their growth pattern.

**Plant Growth Factors:** Growers reported having only minor problems from insect, disease, or critters. One grower had deer and groundhog damage to their planting site and lost everything. Of the insect problems reported, one grower had small amount of mites on lower leaves and another grower reported Japanese Beetles on two of the varieties (Antigua Mix and Inca II Hybrid Mix). Weather caused damage to another grower's variety plot. Overall the varieties basically had minimal insect and disease problems.

**Harvest Yields:** In comparing the bloom measurements to what was listed in the catalog description, First Lady is the variety which was the closest to the listing. Bloom size reported was from 2.75 to 3.25 inches (catalog listed 3.5 inches). Antigua Mix was off .6 inch, Inca II Hybrid Mix was .9 inch off, and Crackerjack was 2 inches off the listing. Height of the plants was in line with what was stated in the catalog in all varieties except Crackerjack. This variety the growers were split 50-50 in their reporting of the height. The two colors reported were yellow and gold. The yields were best on First Lady and Inca II Hybrid Mix with two growers selecting these as number one.

**Descriptions:** Flowers are used to beautify the landscape, garden areas, or decorative purposes. These growers listed beautification as their use of the flowers grown.

**Results:** The growers did not reach an agreement on any variety being best. Each grower rated a different variety as their number one choice. In looking at bloom yield, First Lady was the closest to the listed bloom size and First Lady, Antigua Mix, and Inca II Hybrid Mix met the height size listed. Germination in all the varieties was low.