



**VEGETABLE VARIETY TRIALS
FOR LOCAL FOOD
PRODUCTION
OLYMPIC PENINSULA
WASHINGTON STATE, 2009**

A joint project of Organic Seed Alliance, Port
Townsend Food Coop, Washington State University
and Port Townsend Farmers Market

Vegetable Variety Trials for Local Food Production on the Olympic Peninsula of Washington State, 2009

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Introduction

In 2009 Organic Seed Alliance conducted variety trials in Jefferson County, WA for 11 different crops, with over 170 varieties, evaluating these varieties for their quality and marketability into the adverse weather conditions of fall and winter. The trial objective was to assist growers to expand their season and diversify their winter vegetable production on the Olympic Peninsula supporting increased availability of local foods. No plastic or remay covering was used after two weeks of growth subjecting all crops to the rigors of the climate. The planting dates were selected with a goal of achieving the optimum size for overwintering. However, the optimum planting date may vary according to your local micro-environment and you may want to experiment with a few planting dates to see what works best on your farm. Data was collected throughout the fall and winter at all important stages of each crop's development. A field day for local farmers was hosted by OSA in early December 2009 just as crops were going through the coldest fall weather that anyone could remember (down to 14 F every night for almost a week and high temps in the upper 20s or lower 30s every day). This weather was ideal for our purposes as it definitely damaged many of the weaker plants and allowed us to see which varieties were tough in as low of temperatures as we normally get and as winter wore on. This project was made possible through a supportive partnership between OSA, WSU, and the Food Coop of Port Townsend, WA.

Materials and Methods

Trials of 11 crops were planted from mid-July through early September. Specific planting dates for each are listed in the data section of this report. All crops were planted at Frog Hill Farm in Port Townsend, WA, except the Radish trial which was planted at Tinker Cavallero's in Port Townsend, WA. Planting dates were chosen with a goal of the achieving the optimum size for overwintering. Early growth in this trial was enhanced by the use of covering beds with remay for two weeks post planting. All crops were planted at normal spacing for commercial production on beds that were of a standard width and had ample fertility. All cultural methodology was done using standard organic farming practices that are commonly used in Western Washington. The varieties of each of the 11 crops tested were chosen based on common use among the farmers in the area or were varieties that held promise as exceptional for their ability to perform in adverse conditions in fall or winter. Data was collected using a 1 to 9 scale where 1 was always the poorest score for any particular trait and 9 was the best score. Data charts on all crops, except for Endive and Escarole, are included in this report. Due to the exceptionally cold winter Endive and Escarole were only evaluated for cold hardiness and notes were taken on head qualities.

Results and Recommendations

For these trials the results with recommendations will be described in a crop by crop fashion. The varieties that we recommend are for the fall and winter “extended season” under which they have been tested. These will be the best varieties for this time of year *without* the use of plastic, remay, or other type of cover. Trials represent an annual “snap shot” of variety performance. The following recommendations are based primarily on the results of the 2009 trials, but also incorporate the longer term perspective of OSA staff working with these crops over the past 20 years and their familiarity with historical performance of the varieties evaluated.

Arugula – This trial was planted on 2 Sept. as a fall trial as arugula needs to have sufficient warmth and sun in order to exhibit the vigorous growth that makes the crop marketable (it is somewhat cold hardy and much of it survived the December low temperatures, but at that point it was not commercially viable). Many of the arugula varieties currently available are generic and simply sold as ‘arugula.’ These generic varieties generally lack vigor and have poor stature. **Recommendations;** the real standouts for harvest between the end of September and into early November were ‘**Sputnik**’ from Seeds of Change and ‘**Astro**’ from Uprising Seeds in Bellingham. ‘Astro’ is vigorous, has an upright habit, and has superior flavor. ‘Sputnik’ is almost as good as ‘Astro’ but was not quite as flavorful in this trial, though it was very vigorous and produced great yields. A version of ‘Astro’ from Johnny’s Selected Seeds was inferior to the one from Uprising Seeds.

Beet – This trial was direct seeded on the 15 July and produced perfect market beets by mid-October. The crop then held beautifully in the field through our early December field when we reconfirmed our data and evaluated for cold tolerance among the varieties. We were interested in determining which of the varieties tested were marketable well into the coldest time of the year. We also wanted to know which of these varieties maintained the optimum market traits, healthy tops and smooth roots, well into the winter season. **Recommendations:** In the classic red round beet class, the standard hybrid ‘**Red Ace**’ set a high standard and performed well into December. ‘**Shiraz**’ an open-pollinated variety from Seeds of Change was however just as good for root shape, crown size and exterior root smoothness, and it proved to be cold hardy and have the best tops for bunched red beets in the trial. The ‘**Shiraz**’ tops also held a vibrant green color well into cold weather – unusual for a red beet with red petioles (stems). In the non-red types there was good news, the new ‘**Chioggia Guardsmark**’ is far superior to other versions of ‘Chioggia’ which have been much too variable and misshapen in our previous trials. It also looked very good through the cold weather. Next on the list are the gold beet types. There has been far too much variation in all of the gold colored beets available in the last few years, with none of them really being up to market quality with poor root shapes, poor color quality, and in most cases poor tops (and giving beets a bad name when you see them in the marketplace!) Thankfully we now have ‘**Touchstone Gold**,’ which finally gives us a gold beet deserving of the commercial market. We also evaluated the beet patch one last time in mid March to see how the beets had fared. The ‘**Chioggia Guardsmark**’ was among two varieties that came through the winter perfectly and could have been harvested on the spot – so they are definitely a good candidate for overwintering. Alternately, ‘Lutz Green Leaf’ is also really cold hardy and very harvestable into spring – it is NOT a good commercial variety and should only be used for the home garden.

Swiss Chard – Fourteen varieties of Swiss chard were evaluated as a fall trial. They were planted on 8 July. Chard types included green, red, golden, and multi-color. Varieties were evaluated for vigor, stature (erectness), leaf curl, petiole thickness, and uniformity. In the early stages of this trial a number of the varieties looked good and in fact many of them might perform well as baby cut leaf varieties for salad mix. So anyone interested in using chard for this purpose should perform their own trial with the varieties we recommend and others that the growers choose based on their own color needs for their markets. Our evaluation is for chard that is bunched and covers the harvest requirements and quality considerations for bunched Swiss chard. Our initial evaluation was done before the extreme cold in December, so we are making recommendations for fall and for winter survival. **Recommendations:** In the red chard class before the extremes in cold weather ‘**Crimson 2592**’ from Osborne Seed Co. was the superior variety, strong in all traits, with good vigor, the most upright leaves, and very uniform plants. The next best red variety ‘**Rhubarb**’ from Wild Garden Seeds had excellent leaf curl and very nice upright habit, while it appeared non-uniform in one rep it was definitely better than Johnny’s standard ‘Rhubarb.’ Of the gold types, ‘**Golden Chard**’ from Wild Garden Seed was the best before the cold, with great vigor, leaf curl, and thick petioles. The other gold varieties tended to be smaller with skinny petioles (stems). Of the multi-color types, ‘**Rainbow**’ from Seven Seeds Farm had nice uniform leaf shape and size for easy bunching and good vigor. It was also much better than either ‘Bright Lights’ from Johnny’s or Osborne’s new ‘Aurora Formula Mix’, which seems to just be a mixture of seed from different colored chards. As for winter survival through the extended cold in December and the repeated freezing and thawing through January we only had two chard varieties that still had good harvest potential after the weather started to warm in January, ‘**Fordhook Giant**’ from Johnny’s and ‘**Rainbow**’ from Seven Seeds Farm. The ‘**Fordhook Giant**’ is a green chard with white stems and has a more limited market during the summer and fall seasons, but has a wide open market in late winter when local green leafy vegetables are scarce.

Cilantro – This trial was conducted as a late summer/fall trial in Port Townsend and gave us a good opportunity to see the amount of bolting, the flavor, and which varieties still had harvest potential after the first few frosts (yes, cilantro is cold-hardy and makes a great early fall crop). We direct seeded this trial on 5 August with the intent of capturing good warm weather for vigorous growth early in the trial without the normal bolting pressure of summer. Several of the early bolting varieties still bolted, giving us a chance to evaluate the trial for bolt resistance. Also, many people believe that all cilantro varieties taste the same, but the differences that we found in flavor between cilantro varieties with a taste evaluation were amazing. **Recommendations:** The most important trait for commercial cilantro production is probably bolt resistance. This has become very important for American market growers interested in multiple harvests. Unfortunately, the best tasting varieties, ‘**Jantar**’ (Johnny’s) and ‘**Criolla**’ (an unreleased OSA experimental) are also relatively fast bolting. If the farmer is willing to plant their cilantro crop sequentially (every 7 to 10 days) then the issue of early bolting is not so important. The best of the bolt hardy varieties was ‘**Leisure**’ from Osborne Seeds, which had moderate flavor, good cold resistance, and had good yields. The huge disappointment was with ‘**Santo**,’ the standard variety grown by most market farmers, as its flavor was bland at best and bordered on bad flavor. Several of the new “frilly” varieties like ‘**Confetti**’ and ‘**Delfino**’ were also truly bad in the flavor category, were poor yielders, and were very susceptible to frost.

Collards – The popularity of collards is spreading and growing in all northern regions. We planted this trial into flats on 10 July and transplanted on 5 August. It has certainly become one of the standard winter greens that is produced for winter consumption in the PNW. It is essentially a flat leaf Kale and many farms are discovering it as an alternative to kale in their product offering. We evaluated the standard varieties and 3 or 4 of the more unusual varieties of collards in an attempt to find something that could possibly fill the niche that is opening up for this cold-hardy green. The first thing that we discovered is that collards are just not as cold hardy as kale. We definitely got some damage across the board with the collards once the cold weather hit in early December and they seemed to suffer a basic “malaise” and did not perform as well as the kale varieties through the toughest winter weather. However, they are a great fall crop and have proved to be a very good spring crop with several of the varieties tested taking longer to bolt than most of the kale varieties. **Recommendations:** Unfortunately, several of the more unusual varieties that we tested were much too variable to be used as commercial market farming varieties. In order to have a consistently uniform product for market there were two varieties that really shined; **‘Flash,’** which is a very uniform hybrid that is carried by Johnny’s and **‘Champion,’** which is the best of the open-pollinated types and there are very good, well-maintained versions available from both Wild Garden Seeds and Johnny’s.

Endive and Escarole – These two crops are the same species and are essentially two versions of the same cold-hardy leafy vegetable. Endive is a frilly, French version of this almost lettuce like crop and Escarole has broader leaves and looks more like commercial green leaf lettuce. They were planted on 29 July and transplanted 19 August. Early in the fall I started to think that these planting dates were too late in the season and believed that we would not get as well developed heads as we had hoped before the growth stopped due to short days and cool temperatures. The biggest surprise with this trial was the fact that these crops grow much better in the cool fall weather of October than lettuce. They truly put on weight and the varieties that form “hearts,” similar to butter lettuce varieties, really pack in their dense hearts during this period. The Endive and Escarole flavor also came into its own during this time period, becoming milder and less bitter than what people usually believe they will be. The combination of their rapid fall maturation and good flavor makes these crops ideal fresh market leafy green crops for October, November, and into December in the PNW. Here in western Washington we usually don’t get our true cold weather until the last week of December or the first week of January, which means we could usually be harvesting and marketing these crops through the winter solstice and for holiday parties. This winter, our temperatures went down to the mid-teens in the second week of December, damaging a number of varieties and curtailing our harvest season. **Recommendations:** In the Endive class we did evaluate a couple of the frilly “Frisee” endive varieties that are often used as a cut leaf for salad mix. Of these ‘Rhodos’ was the most susceptible to cold weather and did not fare well for the fall/early winter market. The Frisee type that did well was **‘Clodia’** from Johnny’s which was very vigorous and was cold hardy right up to the mid-teens. **‘Keystone’** which is halfway between a traditional endive and a Frisee type also handled the cold through November and was rated as the most vigorous along with ‘Clodia.’ The most flavorful endive in the trial was **‘Cuor d’oro’** from Seeds from Italy, though it was only moderately cold hardy and moderately vigorous, it was perfectly harvestable until mid-November. For the Escarole types **‘Cardoncella barese’** from Seeds from Italy was tops for both vigor and cold hardiness where it shined in both categories. **‘Séance’** from Osborne was next

showing a little cold damage by Thanksgiving, while **‘Eros’** and **‘Natacha’** from Johnny’s and **‘Giant Batavian’** from Wild Garden Seeds all showed a bit of cold damage with respectable vigor and very harvestable heads by November.

European Kale – We evaluated both the more standard European Kale that is a mainstay of fall and winter vegetable production in the PNW and beyond and we looked at a number of the so-called Siberian or Red Russian type of kales. The standard types are very well adapted to our environment and can go through the type of winter weather that we had this year with no problems. The Siberian types are equally cold hardy and productive into the winter months. Their main flaw from a commercial standpoint is that they have a very short shelf-life and seem to wilt faster than European kale on the store shelf or even within a few hours at the farmer’s market. All of the varieties of both kinds of kale that we tested survived our cold weather this season, but it was interesting to see the differences in some of the quality traits. **Recommendations:** A trait that always garners interest in these crops is flavor. Informally we did some taste evaluation in the European Kale varieties and found that **‘Redbor’** (Johnny’s), a hybrid red, and the three green hybrids **‘Ripbor’**, **‘Starbor’**, and **‘Winterbor’** were all mediocre at best for flavor. The standouts for flavor were the four Lacinato types (more on those below) and **‘Nash’s Red’** (can occasionally be purchased from Nash’s stall at the PT Farmers Market). Another important trait that is always cited by farmers is plant height. Plant height has been a hallmark of several of the Dutch kale varieties over the years. Tall standouts include **‘Winterbor’** and **‘Redbor’**. For commercial bunched kale markets both of these varieties are tall, uniform, have a good leaf curl and good color. **‘Winterbor’** from Johnny’s is a reliable variety that has served as a workhorse variety for many farmers for years. **‘Redbor’**, also from Johnny’s, has a very good reputation and while it has become the standard red kale its flavor is truly *the poorest* of the varieties we tasted. Nash Huber is still in the process of breeding his winter red variety, **‘Nash’s Red’**, which is not as uniform or as red as **‘Redbor.’** But **‘Nash’s Red’** (seed sometimes available at the PT Farmer’s Market) has better resistance to Downy Mildew, has better regrowth after repeated cuttings, and tastes much better. The Italian Lacinato type kales have a number of different varieties with subtle differences in their characteristics. Of the Lacinato kales that we tested the **‘Toscano’** from Johnny’s was probably the best strain of the varieties tested, as it had vigor as well as good height. It also had very good cold hardiness. The only other Lacinato type to rival it was the **‘Black Tuscan’**, which Seven Seeds Farm has been testing and will hopefully soon be selling. The **‘Black Tuscan’** was consistently the best Lacinato for vigor, stature, and for its production of the rapini flower buds that it has yielded in the past few weeks. In the Siberian Kale types there was really no big difference between the various strains of **‘Red Russian’** that we tested, though the **‘Winter Red’** from Territorial is distinct for its frilliness and should be considered by any growers wanting to set their Red Russian kale apart. The consistently nicest of the white Siberian types was the **‘White Russian’** Kale from Wild Garden Seeds, as it was tasty and very uniform. The **‘White Russian’** has also proven to be one of the most cold hardy of the Siberian kales in other trials when the temperatures drop below the lows of 14F that we saw this past winter.

Radicchio – Radicchio is still considered an unusual specialty crop by most vegetable people. The fact is that it is one of the highest value cold hardy leafy vegetable crops that we have to develop a thriving winter vegetable market with. Our trial revealed that there are a number of varieties with very good

cold hardiness that could be grown as they are by the local farmers with excellent prospects of being good money makers. Several of us (two farmers and OSA) have made selections out of the best plants that survived for some local on-farm breeding, and this will help lead to even better adapted varieties for the Peninsula in the future. We seeded this trial into flats on 29 July and transplanted these varieties on 19 August. We were trying to plant this trial late enough in the season so the radicchio would not be fully formed when it went into the coldest weather of winter. What we didn't expect was that many of the varieties grew vigorously through the cool weather of the fall and some even headed up by the onset of cold. A number of the varieties tested were not traditional round red radicchios, but had beautiful stature that would make a make a perfect "open-head" for marketing as a winter lettuce substitute. We also tested several "grumolo" varieties, which are the truly cold hardy chicories from the north of Italy. **Recommendations:** This trial proved that any growers that are interested in cold hardy versions of any of these crops need to dig a little deeper when they search for varieties to test and not just rely on the varieties sold by a handful of American companies. This is because the two hybrid varieties and two open-pollinated varieties that we grew that are commonly sold by American seed companies, 'Indigo' F1 from Johnny's, 'Leonardo' F1 from Osborne, 'Palla Rossa' (Seeds from Italy) and 'Chioggia Red Preco' (Johnny's) were among the most cold susceptible of the whole trial, and ***should not be grown for winter production*** here in Western Washington. The only true round radicchio that was somewhat harvestable after the coldest weather had toasted its older, outer leaves was '**Radicchio di Chioggia**' (Seeds from Italy). The surprise success in beautiful red radicchio types in this trial were two selections that are probably of similar origin; '**Rossa di Verona**' and '**Rossa di Verona sel Arca**' (both from Seeds from Italy). These varieties make a gorgeous tight round head that is open on top like a rose bud, with the outer leaves looking like rose petals! Overall, we lost some plants in both of these varieties to the cold, BUT the plants that remained were very cold hardy indeed, exhibiting little frost damage and being harvestable as soon as the cold subsided! We grew one red leaved grumolo, '**Grumolo Rossa**' (Seeds from Italy) that had an upright, open habit and has had excellent spring growth of harvestable red leaves. In the green leaved types we had a very cold hardy, open heading type with speckles of red '**Radicchio di Castlefranco**' (Seeds from Italy) that was a standout and had big harvestable open heads that looked like a green leaf lettuce. Lastly we had two green leafed varieties that are of the "sugar loaf" type of chicories. The sugar loaf type produces a very mild tasting radicchio that is upright and more like a small Romaine lettuce head. The two varieties, '**Radicchio di Luisa Tardiva**' and '**Bianca a Bergamo sel Franchi**' (both from Seeds from Italy) had moderate frost damage with toasted outer wrapper leaves, but once these outer leaves are stripped off there is revealed an excellent sugarloaf type that could readily be sold as one might sell Romaine lettuce hearts. Everyone who saw these jewels fell in love!

Spinach – Spinach was direct seeded on two distinct planting dates; 19 August for fall production and 30 September for overwintering. The fall trial produces spinach that is at is large bunchable spinach that is often harvested in October and into November. The main goal of the fall trial was to see if this harvest could be extended through the cold weather and harvested in late winter and early spring. The overwintering trial has the goal of getting a high number of survivors by having the spinach plants get to the size where they will fit under an inverted teacup. While the fall trial had quite a bit of winter kill the overwintering trial had almost all of the plants survive successfully. Final notes were taken as the spinach started to regrow in March. The recommendations are based on ability to harvest in late winter

and early spring. **Recommendations:** In both the fall and overwintered trials only three commercial spinach varieties really shined in each of the two trials. In the fall trial there were two things that we looked for; 1) premature yellowing – when spinach is suffering through cold weather it often will get yellowed older leaves before it dies. There are definitely varietal differences in the amount of yellowing and it is important as it does affect the ability to harvest a good product. In the fall trial **‘Space’** (Johnny’s), **‘Tarpy’** (Osborne), and **‘Olympia’** (Territorial) were the only 3 commercial varieties that both had minimal yellowing of their older leaves in early December and had most of the plants survive till spring. All of these varieties are flat leaf types and have the potential to make nice big bunches with nice big luscious leaves. In the overwintering trial all of the best spinach varieties were semi-savoy. These were also judged on their ability to not produce excessive yellow leaves and survive the winter. The other criterion that we used to judge these was their ability to put on growth in February and March so that they would have lots of harvestable tissue in April. The three varieties were **‘Melody’** (Jordans), **‘Santorini’** (Osborne), and **‘OSA 915’** (OSA variety that will be released in the next year by Seeds of Change – if you are interested in it please ask us about an update on the release date). All 3 of these are growing beautifully as I write this on 31 March and should supply a good harvest in April. There is also one other experimental that did really well **‘Abundant Bloomsdale’**, which we are still working on here at OSA and will be released in the coming years!

Evaluation Data of this 2009 Season Extension Trial is available on a separate document

A joint project sponsored by Organic Seed Alliance, Port Townsend Food Coop, Washington State University Jefferson County Extension.



Arugula Trial - Frog Hill Farm, Port Townsend WA, Evaluated October 14th 2009

Variety	Source	Vigor	Stature	Flavor	Overall	Comments
Arugula	ABBO	1 3 2	9 5 7	5 9 7	5.0 5.7 5.3	/ Sweet and spicy
Arugula	JSS	5 5 5	5 5 5	9 7 8	6.3 5.7 6.0	Mild /
Astro	JSS	9 7 8	9 7 8	7 3 5	8.3 5.7 7.0	/ Bland, bitter
Surrey	JSS	1 5 3	9 7 8	5 5 5	5.0 5.7 5.3	/ Very bland, green flavor
Sputnik	OSA	5 7 6	5 7 6	5 7 6	5.0 7.0 6.0	Grassy / Mildly sweet
Franco-Italian	OSA	5 5 5	5 3 4	3 5 4	4.3 4.3 4.3	Little sweet / Bland, little sweet
Arugula	Seeds from Italy	5 3 4	5 5 5	5 3 4	5.0 3.7 4.3	/ Bitter, bland
Arugula sel Ortolani	Seeds from Italy	5 3 4	7 3 5	9 1 5	7.0 2.3 4.7	/ Bland
Even' Star	SESE	3 5 4	1 1 1	1 5 3	1.7 3.7 2.7	/ Bland
Sputnik	SOC	7 7 7	7 7 7	7 9 8	7.0 7.7 7.3	/ Sweet, good arugula flavor
Astro	UPR	9 7 8	7 7 7	9 5 7	8.3 6.3 7.3	Sweet and spicy, best yet / Sweet stem
Arugula	Wild Garden	5 5 5	7 5 6	5 7 6	5.7 5.7 5.7	Bland / Mild, spicy at end

KEY:

9 is good
5 is average
1 is poor



Comments: first rep / second rep

Color code:

1	4	7
2	5	8
3	6	9

Beet Trial - Frog Hill Farm, Port Townsend WA, Evaluated November 16th 2009

Variety	Source	Vigor	Stature	Uniformity	Crown Size	Root Shape	Smoothness	Leaf Color	Overall
Lutz Green Leaf	Sow Organic	9 9 9	7 7 7	1 1 1	1 1 1	1 1 1	5 5 5	9 9 9	4.7 4.7 4.7
Bulls Blood	JSS	5 5 5	7 5 6	5 5 5	1 1 1	3 5 4	1 3 2	1 1 1	3.3 3.6 3.4
Merlin	JSS	5 5 5	5 5 5	7 3 5	1 5 3	5 3 4	5 3 4	8 5 7	5.1 4.1 4.6
Red Ace	JSS	3 1 2	5 3 4	9 7 8	1 5 3	5 5 5	1 1 1	5 5 5	4.1 3.9 4.0
Chioggia	JSS	5 3 4	9 5 7	5 7 6	5 5 5	5 7 6	5 5 5	7 8 8	5.9 5.7 5.8
Touchstone Gold	JSS	1 1 1	1 1 1	9 9 9	9 5 7	9 9 9	5 5 5	9 9 9	6.1 5.6 5.9
Early Wonder Tall Top	JSS	5 7 6	5 7 6	1 1 1	1 1 1	3 5 4	3 5 4	3 5 4	3.0 4.4 3.7
Boro	Osbourne	5 5 5	5 5 5	5 7 6	9 5 7	5 7 6	6 7 7	7 7 7	6.0 6.1 6.1
Guardsmark Chioggia	Osbourne	5 5 5	7 7 7	5 5 5	9 5 7	5 7 6	7 7 7	8 9 9	6.6 6.4 6.5
Chioggia	SOC	1 5 3	1 7 4	7 9 8	5 9 7	5 7 6	7 7 7	9 9 9	5.0 7.6 6.3
Shiraz	SOC	7 5 6	5 5 5	9 9 9	5 9 7	7 9 8	3 3 3	7 5 6	6.1 6.4 6.3
Rote Kugel	Turtle Tree	3 1 2	3 1 2	5 1 3	5 5 5	7 1 4	7 3 5	5 5 5	5.0 2.4 3.7
Bulls Blood	Wild Garden	5 5 5	7 7 7	5 5 5	5 1 3	5 3 4	3 3 3	1 1 1	4.4 3.6 4.0
Touchstone Gold	SOC	5 1 3	5 1 3	9 9 9	5 5 5	7 9 8	9 5 7	9 1 5	7.0 4.4 5.7
Pronto	SOC	1 1 1	3 3 3	5 1 3	9 9 9	3 3 3	5 1 3	3 5 4	4.1 3.3 3.7
Chioggia Guardsmark	High Mowing	7 7 7	9 9 9	9 3 6	9 5 7	5 5 5	9 7 8	8 9 9	8.0 6.4 7.2

KEY:

9 is good
5 is average
1 is poor

5 5 **5**

First rep Second rep Average

Comments: first rep / second rep

Color code:

1	4	7
2	5	8
3	6	9

Cilantro Trial - Frog Hill Farm, Port Townsend WA, Evaluated September 30th 2009

Variety	Source	Vigor	Stature	Flavor	Bolt Resistance	Overall	Comments
Leisure	Jordans	5 3 4	7 1 4	3 7 5	9 9 9	6.0 5.0 5.5	Bland /
Santo	JSS	7 5 6	7 5 6	3 3 3	9 9 9	6.5 5.5 6.0	
Jantar	JSS	5 5 5	7 9 8	7 7 7	1 1 1	5.0 5.5 5.3	
Criolla	OSA	3 3 3	1 1 1	9 9 9	3 3 3	4.0 4.0 4.0	
Pokey Joe	OSA	7 3 5	5 3 4	5 3 4	9 9 9	6.5 4.5 5.5	Cilantro flavor / Off flavor
Sunmaster	Osbourne	9 3 6	9 5 7	1 5 3	9 9 9	7.0 5.5 6.3	Diseased (virus?), bad flavor / Decent flavor, slight bitter aftertaste
Delfino	Osbourne	1 1 1	7 5 6	1 1 1	9 9 9	4.5 4.0 4.3	
Coriandolo	Seeds from Italy	7 3 5	7 3 5	1 5 3	9 9 9	6.0 5.0 5.5	Soapy /
Confetti	Territorial	5 5 5	9 7 8	1 1 1	9 9 9	6.0 5.5 5.8	

KEY:

9 is good
5 is average
1 is poor



First rep

Second rep

Average

Comments: first rep / second rep

Color code:

1	4	7
2	5	8
3	6	9

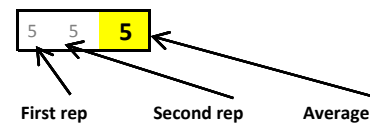
Collard Trial - Frog Hill Farm, Port Townsend WA, Evaluated Dec 7th, 2010

Variety	Source	Uniformity
Vates	Jordans	5 5 5
Georgia / Southern	Rupp	5 1 3
✓ Flash	JSS	9 9 9
✓ Champion	JSS	7 5 6
Even' Star	SESE	9 9 9
Morris Heading	SESE	1 3 2
White Mountain	SESE	1 5 3
✓ Champion	Wild Garden	5 5 5

KEY:

✓ = recommended

9 is good
5 is average
1 is poor



Comments: first rep / second rep

Color code:

1	4	7
2	5	8
3	6	9

European Kale Trial - Frog Hill Farm, Port Townsend WA, Evaluated November 25th 2009

Variety	Source	Vigor	Stature	Uniformity	Leaf Curl	Height	Overall
Blue Vates	ABBO	5 7 6	7 7 7	7 9 8	7 7 7	1 3 2	5.4 6.6 6.0
Redbor	JSS	5 3 4	5 5 5	9 9 9	7 7 7	7 9 8	6.6 6.6 6.6
Ripbor	JSS	9 9 9	3 3 3	9 9 9	9 9 9	7 9 8	7.4 7.8 7.6
Starbor	JSS	5 5 5	7 8 8	9 7 8	7 7 7	1 3 2	5.8 6.0 5.9
Toscano (Lacinato)	JSS	9 7 8	9 9 9	3 5 4	5 5 5	9 9 9	7.0 7.0 7.0
Winterbor	JSS	9 5 7	3 7 5	9 9 9	9 7 8	7 5 6	7.4 6.6 7.0
Nash's Red	Nash	7 7 7	5 5 5	1 1 1	3 3 3	5 5 5	4.2 4.2 4.2
Cavolo Nero	Seeds from Italy	5 9 7	9 9 9	3 7 5	5 5 5	7 9 8	5.8 7.8 6.8
Portuguese	Seeds from Italy	5 5 5	7 7 7	9 9 9	1 1 1	9 9 9	6.2 6.2 6.2
Red Chidori	Territorial	5 3 4	7 7 7	9 9 9	3 3 3	1 1 1	5.0 4.6 4.8
Lacinato	Wild Garden	5 5 5	9 9 9	7 5 6	5 5 5	5 5 5	6.2 5.8 6.0
Sutherland	Seed Ambassadors	9 9 9	1 3 2	9 9 9	1 1 1	5 5 5	5.0 5.4 5.2
Black Tuscan	Sow (Venet)	9 9 9	9 9 9	7 1 4	5 5 5	7 7 7	7.4 6.2 6.8

KEY:

9 is good
5 is average
1 is poor



First rep

Second rep

Average

Color code:

1	4	7
2	5	8
3	6	9

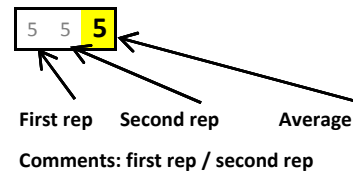
Radicchio Trial - Frog Hill Farm, Port Townsend WA, Evaluated Jan 15th, 2010

Variety	Source	Uniformity	Harvestability	Color (1=green, 9=red)	Overall	Comments
Chioggia Red	JSS	9 9 9	2 1 2	9 9 9	5.5 5.0 5.3	
Indigo	JSS	9 5 7	2 1 2	5 5 5	5.5 3.0 4.3	
Leonardo	Osbourne	9 9 9	2 1 2	5 9 7	5.5 5.0 5.3	gone... /
✓ Rossa di Verona	Seeds from Italy	9 7 8	5 4 5	9 7 8	7.0 5.5 6.3	
✓ Rossa di Verona sel Arca	Seeds from Italy	9 7 8	5 3 4	9 7 8	7.0 5.0 6.0	spotty /
Palla Rossa	Seeds from Italy	5 5 5	3 2 3	7 5 6	4.0 3.5 3.8	
Palla Rossa sel. Agena	Seeds from Italy	7 7 7	4 6 5	5 7 6	5.5 6.5 6.0	
✓ di Castlefranco	Seeds from Italy	5 6 6	9 6 8	3 6 5	7.0 6.0 6.5	FOOD /
✓ di Chioggia	Seeds from Italy	7 5 6	4 3 4	5 5 5	5.5 4.0 4.8	variable color, FOOD /
di Luisa	Seeds from Italy	5 5 5	4 2 3	5 5 5	4.5 3.5 4.0	
✓ di Luisa Tardiva	Seeds from Italy	5 7 6	7 5 6	5 7 6	6.0 6.0 6.0	
✓ Bianca a Bergamo sel Franchi	Seeds from Italy	7 5 6	4 3 4	7 5 6	5.5 4.0 4.8	FOOD /
✓ Grumolo Rossa	Seeds from Italy	6 5 6	5 4 5	5 5 5	5.5 4.5 5.0	
Da Taglio Bionda a Foglie Larghe	Seeds from Italy	7 5 6	7 4 6	1 5 3	7.0 4.5 5.8	spotty /
Grumolo Verde	Seeds from Italy	5 7 6	2 4 3	5 7 6	3.5 5.5 4.5	Spotted grumolo / variable

KEY:

✓ = recommended

9 is good
5 is average
1 is poor



Color code:

1	4	7
2	5	8
3	6	9

Radish Trial - Tinker Cavellero's, Port Townsend WA, Evaluated May 21st 2009

Variety	Source	Maturity	Uniformity	Texture	Overall	Comments
Plum Purple	SSF	5 3 4	3 3 3	9 9 9	5.7 3.0 4.3	Decent purple / Consistant purple
Plum Purple	SOC	3 1 2	5 5 5	5 5 5	4.3 3.0 3.7	Erratic purple with pinks, almost small & lightly pithy / Nice consist purple
Amythst F1	JSS	3 3 3	5 7 6	3 3 3	3.7 5.0 4.3	Uniform purple, tough skin / Consistant purple
Easter Egg	JSS	5 5 5	3 7 5	7 7 7	5.0 6.0 5.5	White is OK at 6-7 for texture /
D'Avignon	JSS	7 7 7	7 7 7	3 3 3	5.7 5.7	Consist red, nice white stripe, bitter, mealy, 9 roots all bad /
French Breakfast	UPR	1 7 4	1 7 4	3 3 3	1.7 7.0 4.3	Consist red, erratic white, spongy, bitter / Med consist red, white - purple off type
French Breakfast	HMS	6 3 5	6 3 5	1 1 1	4.3 3.0 3.7	Less consist red & white, short stubby spongy awful / Inconsist red and white
French Breakfast	SOC	1 5 3	1 1 1	8 8 8	3.3 3.0 3.2	Inconsistant red and white, excellent crisp & slight sweetness /
Cherry Belle	SOC	9 7 8	9 7 8	9 9 9	9.0 7.0 8.0	Rough skin, less consistant medium red / Deep red, less consistant than Rudolph
Cherriette	JSS	5 7 6	5 9 7	6 6 6	5.3 8.0 6.7	Uniform med red, pretty, a little spongy, flat texture / Consistant medium red
Ruby	SM	9 7 8	5 6 6	9 9 9	7.7 6.5 7.1	Less consist med red, one of best, crisp sweet complex spicy / Consist med red
Rudolph	SOC	7 5 6	7 9 8	9 9 9	7.7 7.0 7.3	Consistant deep red ***, nice texture, overwhelming heat / Consistant dark red

KEY:

9 is good
5 is average
1 is poor

5	5	5
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First rep

Second rep

Average

Comments: first rep / second rep

Color code:

1	4	7
2	5	8
3	6	9

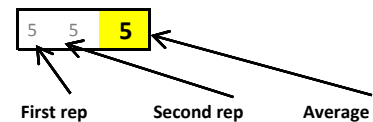
Spinach Trial - Frog Hill Farm, Port Townsend WA, Evaluated Sept 9th and Dec 3rd, 2010

Variety	Source	Early Vigor	Lack of yellow	Overall
Bordeaux	JSS	7 5 6	9 7 8	8.0 6.0 7.0
✓ Olympia	Territorial	5 5 5	1 7 4	3.0 6.0 4.5
✓ Space	JSS	5 6 6	5 5 5	5.0 5.5 5.3
✓ Tarpy	Osbourne	5 7 6	9 7 8	7.0 7.0 7.0
Spargo	JSS	5 5 5	7 6 7	6.0 5.5 5.8
Viroflay	SOC	5 5 5	7 6 7	6.0 5.5 5.8
Viroflay	SOC	5 5 5	7 1 4	6.0 3.0 4.5
Emerald	OSA	3 1 2	5 7 6	4.0 4.0 4.0
Denmark	OSA	3 4 4	7 3 5	5.0 3.5 4.3
✓ Melody	Jordans	5 7 6	7 5 6	6.0 6.0 6.0
Labrador	OSA	5 4 5	5 3 4	5.0 3.5 4.3
Resistoflay	OSA	5 3 4	5 5 5	5.0 4.0 4.5
Unipack 151	Jordans	5 5 5	3 5 4	4.0 5.0 4.5
Queen	Osbourne	5 5 5	3 1 2	4.0 3.0 3.5
Big Papa	OSA	1 1 1	7 8 8	4.0 4.5 4.3
Big Papa	OSA	1 2 2	9 7 8	5.0 4.5 4.8
Tyee	JSS	7 9 8	3 3 3	5.0 6.0 5.5
Bloomsdale	Territorial	5 5 5	6 7 7	5.5 6.0 5.8
Bloomsdale	SOC	5 5 5	6 3 5	5.5 4.0 4.8
Long Standing Bloomsdale	WGS	5 5 5	7 8 8	6.0 6.5 6.3

KEY:

✓ = recommended

9 is good
5 is average
1 is poor



Color code:

1	4	7
2	5	8
3	6	9

Swiss Chard Trial - Frog Hill Farm, Port Townsend WA, Evaluated November 16th 2009

Variety	Source	Vigor	Stature	Leaf Curl	Petiole Thickness	Uniformity	Overall	Comments
Bright lights	JSS	5 6 6	5 5 5	9 7 8	5 9 7	9 5 7	6.6 6.4 6.5	Frost damage / Variable for curl, slight frost
Fordhook Giant	JSS	9 7 8	7 5 6	7 9 8	9 9 9	1 1 1	6.6 6.2 6.4	Frost damage /
Golden Sunrise	JSS	1 2 2	5 7 6	5 3 4	3 3 3	9 9 9	4.6 4.8 4.7	Frost damage /
Rhubarb	JSS	7 5 6	7 7 7	5 7 6	5 7 6	9 5 7	6.6 6.2 6.4	
Aurora Formula Mix	Osbourne	4 3 4	5 3 4	7 9 8	7 7 7	1 1 1	4.8 4.6 4.7	Silverado had frost damage / Variable, frost damage
Crimson 2592	Osbourne	7 9 8	9 9 9	7 7 7	5 7 6	9 9 9	7.4 8.2 7.8	
Orange Fantasia	Osbourne	1 1 1	7 5 6	5 7 6	1 1 1	9 9 9	4.6 4.6 4.6	Frost damage /
Lipstick	Osbourne	7 7 7	5 9 7	3 3 3	5 5 5	1 1 1	4.2 5.0 4.6	
Golden Chard	Wild Garden	5 7 6	5 5 5	5 9 7	7 7 7	9 9 9	6.2 7.4 6.8	Frost damage /
Rhubarb	Wild Garden	4 9 7	5 9 7	9 9 9	3 7 5	1 9 5	4.4 8.6 6.5	
Rainbow	Seven Seed	5 7 6	5 5 5	3 5 4	7 7 7	9 9 9	5.8 6.6 6.2	Variable size, frost damage /
Pink Passion	JSS	3 5 4	5 7 6	1 3 2	7 7 7	9 9 9	5.0 6.2 5.6	Frost damage /
Magenta Magic	JSS	3 3	5 5	3 3	5 5	9 9	5.0 5.0	White off-type, frost damage /
Alba	Mayford	3 3 3	1 1 1	1 1 1	9 9 9	9 9 9	4.6 4.6 4.6	/ Frost damage

KEY:		Color code:		
9 is good		1	4	7
5 is average		2	5	8
1 is poor		3	6	9

5	5	5
First rep	Second rep	Average

Comments: first rep / second rep