

# Bannock County ~ Horticulture

University of Idaho, U.S. Department of Agriculture, and Idaho Counties Cooperating.



## Growing Food on Your Windowsill - Microgreens & Babyleaf Greens

Perhaps the fastest growing trend in vegetables in the U.S. is the trend of microgreens and babyleaf greens. These are simply very small and immature vegetable plants harvested at about 2-3 inches tall when the first true leaves come out (microgreens) or slightly larger at about 3-4 inches tall when several small leaves have appeared (babyleaf greens).

Microgreens may at first appear to simply be a variation of sprouts which have been around for a long time. However, sprouts are normally eaten whole and are not grown in any kind of soil or potting soil. Microgreens and babyleaf greens are usually cut with scissors and the roots are not eaten. They are grown in trays in a layer of potting soil about 1 to 2 inches thick. Whereas sprouts are ready to eat in just a few days, microgreens and babyleaf greens usually take anywhere from 10 to 14 days or sometimes a bit longer. Another difference between sprouts and microgreens is that microgreens have very little chance of contamination by bacteria whereas sprouts require careful handling to prevent contamination.

You may be asking, "why don't I just grow the vegetables to full size"? Well you can grow them to full size or any size in between and that would simply be container vegetable growing, however, there are some other reasons to grow micro and babyleaf greens. Researchers with the USDA and University of Maryland found in examining 25 varieties of microgreens that the nutrient levels were typically 4 to 6 times higher than in the mature leaves of the same vegetable plants. Also you can grow microgreens in small containers on just about any windowsill, they don't even need high amounts of sunlight because they are only growing for a couple of weeks. The quick turn around time between "crops" on your window sill is another advantage of microgreens. In most cases you can reuse the container and potting soil just as it is for the next crop.

Microgreens and babyleaf greens are often found now in supermarkets and are sold in plastic clamshell containers. Multiplying out the cost and weight of the microgreens gives them a grocery store price of around \$30 to \$50 per pound. Growing your own microgreens is definitely far less expensive. Since they are most often used as edible garnish or additives to salads microgreen and babyleaf mixes are often brightly colored and highly flavorful. Special vegetable varieties that are highly colored have even been developed just for the microgreens market.

Growing microgreens in your windowsill is a great activity for winter and other times of year when you can't be outside gardening. Several containers of microgreens would also be a great way to increase kids interest in vegetables and growing plants in general. The fact that they are ready to eat in around two weeks and can be highly colorful also makes them interesting to both children and adults.

So what kinds of vegetables are used for microgreens? A survey by the University of Florida found over 100 types of vegetables are used commercially for microgreens and babyleaf greens. Some that you would suspect to be used would be leafy vegetables such as spinach and Swiss chard. Lettuce is not often used in commercial microgreen mixes because it wilts so easily but at home where you would be harvesting right at the time you eat lettuce would be good. Many other vegetables are used such as beets, cabbage, kale, mustard greens, arugula, onion, radish as well as highly colorful vegetables that most people have never heard of such as amaranth, orach and mizuna. Even things that you might never picture being eaten such as cucumber and squash shoots and carrot greens can be part of the mix. Remember, you are not eating the mature vegetable, just the youngest leaves. Microgreens of herb plants are often part of the mix especially basil with all of its flavor variations. The combinations of color and flavor are almost endless.

Growing microgreens and babyleaf vegetables is quite easy. You simply need some containers at least 2 inches deep with drain holes on the bottom as well as some potting soil and seeds of what you want to grow. The seeds should be sown much more densely than you would in a garden, about four seeds or more per square inch. Keeping the potting soil moist but not wet is important. Some seeds like lettuce and radish germinate in cool to warm conditions while others such as basil require constant warmth. Microgreens can easily be grown under florescent lights even if you don't have a window sill. If you grow under lights the light fixture should be only 4 to 6 inches above the plants. Of course you could easily grow microgreens and especially baby leaf greens outdoors when temperatures are right.

Seed in large quantities could be quite expensive if purchased in regular sized packets but many seed companies now sell seed just for microgreens in large packets that are much more economical. Another alternative might be to buy seed at dollar stores or similar places where it is often as cheap as 10 to 25 cents per packet.

So do some more research and find some microgreens or babyleaf greens to grow in your windowsill or under lights. They are very easy and rewarding and you will be able to grow vegetables year round and in an amazing array of colors and flavors.

Robert Pitman  
Bannock County Horticultural Assistant

### **When to Plant Different Vegetables**

By tradition, many persons in eastern Idaho plant their entire vegetable garden all at once, usually around Memorial Day. While this may be tradition it is not necessarily a good practice as it ignores the temperature requirements of different vegetables. There are two basic groups of vegetables based on temperature requirements, namely cool season vegetables and warm season vegetables. Most people are familiar with the fact that warm season vegetables don't tolerate frost and need hot weather. By contrast, cool season vegetables do tolerate some frost and grow best in cool to moderately warm temperatures. Hot weather that may be great for a tomato plant may cause spinach to bolt (go to seed) or cause lettuce to taste quite bitter. In reality, a person could and should already be eating spinach, lettuce and radishes by the time tomatoes are planted in the ground.

#### **Cool Season Vegetables**

##### **Earliest (sow seed April 1 or earlier)**

- Lettuce
- Peas
- Radish
- Spinach

##### **Moderately Early (plant April 15 to May 1)**

- Beets
- Broccoli
- Cabbage
- Carrots
- Kale
- Onions
- Swiss Chard
- Turnips
- Oriental Greens

#### **Warm Season Vegetables (these require warm soil)**

- Beans (plant late May - early June)
- Corn (late May - early June)
- Cucumbers (early June)
- Pepper (late May - early June)
- Potato (early to mid May)
- Pepper (late May to early June)
- Tomato (late May to early June)
- Watermelon & other melons (early June)

Tomatoes and Peppers can be started indoors two months before planting outdoors. (plant indoors by April 1)

Cucumbers, pumpkins, squash & melons can be started indoors but only 2 to 3 weeks before planting outdoors.

Cool season vegetables can also be planted in late summer to mature in fall as they will stand the frosts of early fall. By planting the many different vegetable varieties at the proper time it is easy to have a 6 to 7 month harvest and the vegetables will be of higher quality if grown under the best temperature conditions.

Robert Pitman  
Bannock County Horticultural Assistant

The Bannock County Horticulture News is published quarterly by the Bannock County Extension Office. For questions or ideas for upcoming issues please contact Bill Bohl

## Vegetable Planting Time Determined by Soil Temperature

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William Bohl

One unseasonably warm day last year in mid March I was outside for a bicycle ride and heard the motor of a rototiller. Sure enough, an avid gardener was preparing a garden for planting. I don't know if he/she actually planted anything that day, but I'm sure it was tempting.

Depending on the information source used, vegetables are classified according to how well they tolerate cold temperature. University of Idaho BUL 863, Choosing and Growing Adapted Vegetable Varieties, ( ) classifies vegetables as cool-season hardy, cool-season tender and warm-season tender. As you would expect, plants classified as cool-season can and should be planted earlier in the year than warm-season vegetables.

Cool-season vegetables will germinate at cooler soil temperatures, and will also tolerate cooler daytime temperature, down to 40°F, and most likely will survive a light frost at night. Warm-season vegetables, on the other hand, need daytime temperatures approaching at least 60°F and do much better with even warmer temperatures. Daytime temperatures in the Blackfoot vicinity generally reach into the 40's in late February to early March, but don't reach into the 60's until late April ( ). It isn't until about the third week of April that nighttime temperatures around Blackfoot aren't dipping below freezing - 50 percent of the time, the last 32.5-degree temperature occurs about May 24.

Although air temperatures may be getting into the upper 40's in early March, it's the soil temperature you need to consider before planting. Cool-season hardy vegetables include beets, Brussels sprouts, broccoli, cabbage, carrots, cauliflower, leeks, lettuce, onions, peas, radish and spinach. These vegetable seeds will germinate with a soil temperature as low as 40°F, and lettuce, onion and spinach will even germinate at 35°F soil temperature. However, it's better to plant all these vegetables when the soil temperature during the day is no less than 50°F. Beets, carrots, lettuce and spinach can be planted directly using seed, but the others will do better if transplants are used. Brussels sprouts, cabbage, cauliflower and peas can be direct-seeded 3 weeks before the last spring frost. Beets, carrots, leeks, lettuce, radish and spinach can be direct-seeded 2 weeks prior to the last frost and cabbage and cauliflower can be transplanted at this same time.

Beans, potatoes and sweet corn are cool-season tender vegetables that grow better with a soil temperature of at least 55°F. Potatoes are considered tender because the foliage can be easily damaged by frost. However, even if potato foliage is frost damaged, it will quickly recover and still produce a crop. Potatoes can be planted about three weeks before the last expected spring frost, but will emerge slower than if planted a week or so later. Corn should be planted just after the last spring frost and beans should be planted about 1 week later.

Tender warm-season vegetables include cantaloupe, cucumber, pepper, pumpkins, squash, tomato and watermelon, and will germinate with a minimum soil temperature of 65°F but do better if transplanted. All except tomato need to be transplanted when the plants are very young - no more than two fully expanded true leaves. In very short-season areas, you should transplant these crops to allow more time to reach maturity. Whether directly seeded or transplanted, these crops should be planted 2 to 3 weeks after the last spring frost.

General information about gardening in short-season, cold environments like east Idaho may be found at

Happy Gardening!

## **Everyday Gardening School**

University of Idaho, Bannock County Extension, is offering a four-part series of workshop/seminars beginning in April. The first class will cover tree planting and care; container and raised bed gardening; soils, water and fertilization; and lawn maintenance. The classes are open to the public and will be held once each month, April 4, May 7, June 4 and July 2 from 6:30 to 9:00 p.m. at the Bannock County Extension Office, 10560 N Fairgrounds Road (across from the grandstand on the Bannock County fairgrounds). Cost for the classes will be \$30.00 if you pre-register for all classes or \$10.00 per class if you pre-register for only selected ones. You do not need to attend all four. Call the Extension office to pre-register, 236-7310.

Persons with disabilities who require alternative means for communication of program information or reasonable accommodations need to contact Bill Bohl by March 21, 2013 at 10560 N Fairgrounds Road, Pocatello, ID 83201, phone 236-7310.

## **Bannock County Extension Horticulture**

The University of Idaho, Bannock County Horticulture program exists to help the citizens of Bannock County with home gardening questions and issues of all types. Some of the things we do for you include:

- Telephone and office consultations to identify problems and discuss solutions.

- Yard calls and consultations when an on-site inspection is required.

- University fact sheets and bulletins available at the office or for download

- Master Gardener Classes

- Specialty gardening classes taught during the gardening season

- Weed and insect problem identification

- Consultations on what to plant and how to plant it

Contact Robert at 236-7310 or Bill at 236-7354 for any questions regarding gardens, landscapes weeds and pests.