

## Fun Factoids About Daikon and Cold Weather Crops 10/31

### **WHAT WE GREW/GROWING DAIKON**

Japanese Minowase Daikon. We grew this radish for its known popularity, crunch, and that it can get to be up to 24” long and 3” wide. It’s a quick fall cool weather crop that is typically ready in 40-50 days. We planted at the very end of August, so we are more at about 60 days. (sometimes seed packets lie!!)

Red Beauty Radish. Very sweet Chinese variety. It can be red throughout or have some white in the center, it can vary from plant to plant. It is said to be high in antioxidants, like many other veggies with deep coloring. These (might) possibly include lycopene or anthocyanins, I wasn’t able to find any research on the specific antioxidants, but there is an ancient Chinese proverb that says, “When white radishes are in season doctors should take a break.”

SOIL: if your soil is heavy consider planting a shorter variety, or plant a longer variety as a cover crop because the deep roots can help break up and aerate the soil. Raised beds can be helpful, especially in areas with lots of clay. (Gretchen elaborate on cover crop). Like most veggies daikon likes a slightly acidic soil that is loose. We did loosen the soil, but were out of fertilizer and found this to be an extremely rewarding and low-maintenance crop to grow.

The top three parasites are known to be flea beetles, cabbage maggots (aka root maggots), and wireworms. Controls can include a spring treatment of the planned bed with diatomaceous earth to try to reduce the population before a late summer/fall planting.

### **RADISH BINOMIAL NOMENCLATURE**

Radishes are part of the Brassicaceae family, aka mustard family.

*Raphanus sativus longipinnatus* are the long, winter radishes.

*Raphanus sativus var. Radicula* are the more common radishes that we grow in Ohio, like Cherry Bell, Purple Plum, etc.

In Japanese “dai” means big, and “kon” means root, so a very literal translation!

## **DAIKON DISHES AROUND THE WORLD**

LO BAK GO Radish cakes or “turnip cakes” as daikon are sometimes translated as turnips from Chinese to English because of the similarities between the vegetable and for unknown reasons that name stuck.

DANMUJI KIMBAP

KOREAN LETTUCE WRAPS

BANCHAN Ann Arbor first learning about daikon radish kkakdugi, then learning to make because I couldn't find it in Toledo or Cleveland

MOOLI PARATHA

MULLANGI SAMBAR

## **PLANT HARDINESS/WHAT MAKES A PLANT COLD TOLERANT?**

VERY HARDY- some brassicas, alliums, daikon, kale, collards, parsnips, brussels sprouts 24-28

FROST TOLERANT- brassicas, lettuce, radish, beets, peas, parsley, carrot, chard 32-34

TENDER- tomato, pepper, corn, beans

WARM LOVING- basil, okra

Let's talk about cold hardy vegetables. They are not killed by cold temps, but their growth is slowed or they go dormant and can result in spring crops.

Cold hardy plants have the ability to make chemical changes in their cells to prevent the formation of ice crystals. They have a genetic makeup that allows them to increase the sugars, and sugar water freezes at a lower temperature than water. Dr. Tim McDermott says these sugars act as “antifreeze”. So, many of us know that collards and parsnips and brussels sprouts are better after a frost because they get sweeter. It is the plants reaction to the cold producing more sugar as a protective factor that initiates this change.

Other considerations for hardiness include plant height above ground, the nature of any foliage on the plant, and how much of the plant exists under the ground.

Michael Thomashow's research: Plant Proteins and cold weather. Some plants have evolved to have protein that allow them to tolerate cold weather. These proteins fill the space between the cell wall and the plant's membrane, reducing shriveling and dehydration. Thomashow and his team studied the genes responsible for cold hardiness and modified *Arabidopsis* plants (a kind of cress in the Brassica family). For 40 years *Arabidopsis* has been a popular for plant study because of its comparatively short genome and very minimal growth requirement. *Arabidopsis* is not an economically significant crop, but is closely related to turnip, cabbage, broccoli and CANOLA.

### **OUR FALL CROPS AT BF**

Green tomatoes  
Green cabbage  
Walking onions  
Late bean planting  
Collards  
Parsnips  
Napa cabbage  
Lettuce  
Kohlrabi

We could \*in theory\* plant another crop of daikon and have a successful harvest. Also, I'd like to look into planting spinach and cover crop under frost blanket row cover in future years to help with our weed problem. Having a crop planted can help suppress the first weeds of the season and can be a low maintenance (after installation) way to manage weeds.