Starting Your Sustainable Small Farm in Idaho

# Planning for Planting the Market Garden



Presented by Diane Green, Greentree Naturals, Sandpoint, Idaho Certified Organic Farm Since 1992







## We make our living from what we grow and sell from our farm













#### On-Farm Research project with UI

Comparing same species vegetable yields using different types of season extension techniques. High Tunnel vs Hoop house production of cucumbers, eggplant, and peppers.



### On-Farm Research with WSU





Comparing beneficial insects numbers on long term certified organic farms vs. newly cultivated farms.

We've hosted apprentices/interns since 1996.





### Let me introduce you to who we are and What we grow for Market

- ▶ 140+varieties of vegetables
- 40+ varieties of culinary and medicinal herbs
- 33 varieties of cut flowers for fresh & dried bouquets
- ½ acre garlic (9 varieties)
- Strawberries, blackberries, grapes, raspberries, blueberries
- 4 kinds of hops
- Assorted vegetable & flower seeds





### Planning the garden is the first step to a successful season

- Planning is crucial for us to be successful at what we do.
- One technique that we have found that helps us with our planning every year is keeping good records and garden maps along with a daily garden journal.



My husband Thom out standing in his field

### Record Keeping

- Maintaining good records will help you track production for future expansion.
- It helps to know how much seed produces how much product so you will have an idea of your needs for the following year.
- What does it take to grow the crop?

- Keep track of how long it takes to plant, weed, transplant, and harvest specific crops.
- Note how much time goes into post harvest handling as well.
- Good record keeping and journals will make the following season more productive.



### Things to put in your garden journal:

- ▶ Last frost spring/fall
- Seeding & transplanting info
  - Varieties, dates, amount seeded and transplanted
- Direct seeding dates into the garden & how much seed you used for each row
- Working the ground
- ▶ Fertilizing
- ► Hand weeding
- Pests and how you treat for them
- ► Harvest dates & quantities



### The best approach to planning a market garden starts with asking some basic questions:



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- What do you like to eat?
- Who is going to do the work?
- Are you growing to sell at the farmers market or other retail markets?
  - Have you had a conversation with your customers about what they want?
  - Survey restaurants and markets?
  - How many CSA shares?



### **Seed Selection**



- Not all seed catalogs are created equal and all of them offer something just a little bit different from each other.
- If you take the time to do a little research before making your seed selection, you will improve your growing season right from the very beginning.

## Seed Selection What is important to you? Make a list of criteria...

- For example, because we grow for restaurants and work with caterers, the appearance and uniqueness of a vegetable are important to us.
- The color of the fruit, the size of the vegetable at harvest time, and the shape are all important for how it will look on the caterer's buffet table or chef's dinner plate.



Stuffed patti pan squash



#### Seed selected for this year's garden may end up taking a couple of years to evaluate how it grows in your garden

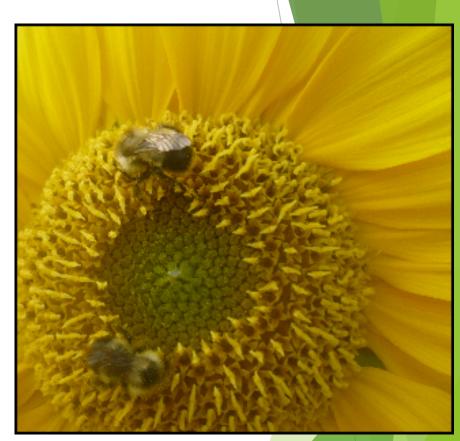
- There are so many variables that come with every seed packet we collect for the growing season:
- Look at seed source If the seed we are buying was grown in a hot and humid climate, it is likely that it may provide a bountiful harvest where the seed was grown and not so great when the plants sink their roots into our chilly north Idaho soil.
- What crops are going to require season extension?





### When you are making your seed selection....

- Be sure to include flowers in your vegetable garden. They not only add color and beauty to the veggie garden, but invite the pollinators and beneficial insects.
- Resource: The Xerces Society Guide Attracting Native Pollinators
- Xerces Society Guide Farming with Native Beneficial Insects







- You might want to start with a single planting of a crop to find out how well it grows under the conditions at your site.
- We usually will try a new variety out for 3 years to see how it will grow for us before adding it to our must have list.



Know who your customer is before you plant!





- How much time are you willing to invest?
- ► If you plant 60 zucchini plants, what are you going to do with the harvest?
- When thinking about what to plant, also consider what is involved with harvesting the crop.



We grow 32 squash plants inside a hoop house and 32 outside in the field.

► The hoop house plants produce about 3 weeks earlier than the outside plants do because of the extra warmth of the hoop house.







- Squash harvest takes a lot of bending over, and they need to be harvested every day at the peak of the season to keep them small in size. Can you keep up with the daily harvest?
- Be realistic with your time investment and harvest dates of different crops.

NOTE: Everything will take longer than you think it will.





Consider time, energy, and space requirements for each crop BEFORE you plant.... Estimated harvest dates & how they overlap.

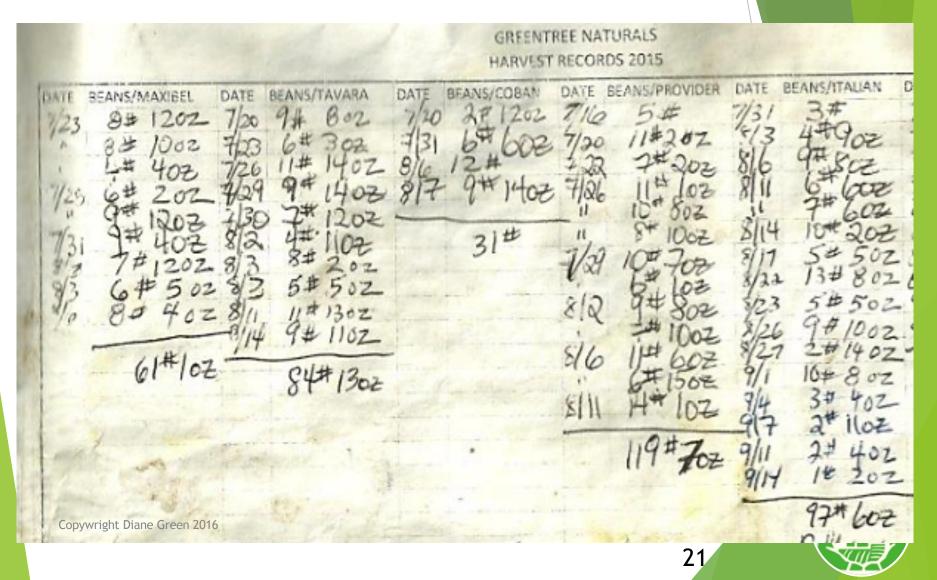
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### **Harvest Records**

#### Greentree Naturals 2015 Harvest Records

DATE	BEANS / Maxibel	DATE	BEANS / Tavara	DATE	BEANS /Coban	DATE	BEANS / Provider	DATE	BEANS /Italian
23-Jul	21.2 LBS	20-Jul	9.8LBS	20-Jul	2.75 LBS	6-Jul	5 LBS	7-Jul	3 LBS
25-Jul	16 LBS	23-Jul	6.3 LBS	31-Jul	6.8 LBS	20-Jul	11.2 LBS	3-Aug	4.9 LBS
31-Jul	9.4 LBS	26-Jul	11.75 LBS	6-Aug	12 LBS	22-Jul	7.2 LBS	6-Aug	9.8 LBS
3-Aug	14.1 LBS	29-Jul	10.2 LBS	7-Aug	9.75 LBS	26-Jul	30 LBS	8-Aug	13.75 lb
6-Aug	8.4 LBS	30-Jul	7.75 LBS			29-Jul	16.8 LBS	14-Aug	10.2 LBS
		2-Aug	8.75 LBS			2-Aug	17.6 LBS	17-Aug	5.5 LBS
		3-Aug	13.25 LBS			6-Aug	18.5 LBS	22-Aug	13.8 LBS
		11-Aug	11.75 LBS			8-Aug	14.75 lbs	23-Aug	5.5 LBS
		14-Aug	9.75 LBS					26-Aug	12.8 lbs
								1-Sep	10.8 LBS
								4-Sep	6 LBS
<u></u>	l: 1							7-Sep	2.5 LB
		· -	epper, toma	1			St		
beg	in about th	ne sar	ne time as	bean	Harvest				
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### **Harvest Records**



### Deciding what to plant

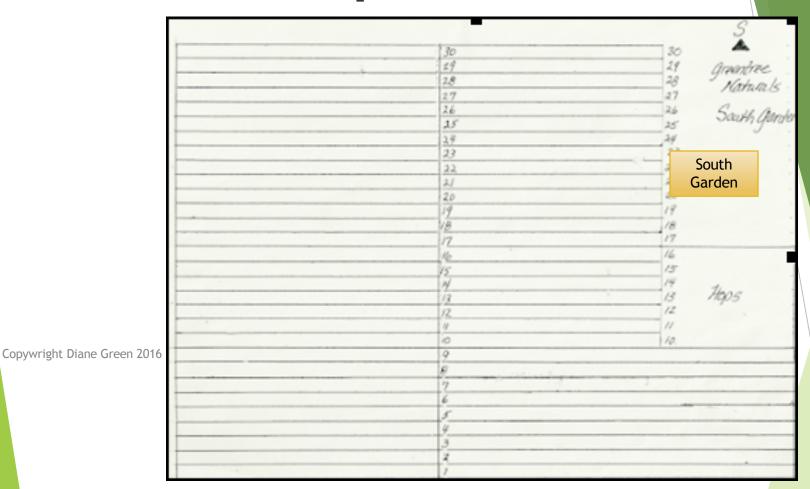


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- What is the size of your growing area?
  - You need to figure out how much space you have in the garden and see what will fit. Creating a garden map will help you with making this decision.
  - Consider space requirements for each crop.
- What will require season extension for success?



### Garden Map



We make copies of our blank garden map so we have lots of extras to work with when we are laying out the garden for the growing season. Due to the size of our gardens, we actually have a number of different maps: Main Garden, West Garden, and South Garden.

### Garden Map

LOVER CROP	30	COVER CROP	30
COVER CROP	: 29	COVER CROP	29 Grantrae 28 Naturals
COVER CROP	28	COVER CROP	28 Naturale
CAULIFLOWER	27	POTATOES	27
CABBAGE	26	POTATOES	27 South Gard
DNIDNS	25	POTATOES	25 South yard
BEETS	24	POTATOES	24
MELONS	23	POTATOES	South
ONIONS	22	POTATOES	الالالالالالالالالالالالالالالالالالال
SUGAR SNAPPEAS	21	COVER CROP	21
SUBAR SNAP PEAS	20	COVER CROP	20
TOMATILLO TOMATOES	19	COVER CROP	19
COVER CROP	18	WINTER SQUASH	18
BEANS (PROVIDER)	17	LEEKS	17
BEANS (MAXIBEL)	16	BROCCOLI	16
BEANS (MAXIBEL)	15	COVER CROP	15
CORN	14	BROCCOLI	14 1,
CORN	1/3	BEETS	13 Hops
CORN	12	BEETS	12
CORN	"	CAULIFLOWER	//
POLE BEANS	10	EGGPLANT	10.
CARROTS	9	ONIONS	! -
EDIBLE FLOWERS	8	SOVBEAKS	, P.
STRAW FLOWERS	7	CABBAGE	i u
GLADIOLA + LARKSPUR	6	CAULIFLOWER	i M
GARLIC	5	GARLIC	1
GARLIC	4	GARLIC	1 K,
GARLIC	3	GARLIC	1 //
GARLIC	2	GARLIC	. 5
KARLIC	1	GARLIC	i

To simplify our map, we know that each line represents a two-and-a-half foot wide path.



### Transplants or Direct Seed?

#### Transplants:

- Give you a jumpstart on the season, because they will mature sooner for early harvest.
- Can be more resistant to insect & other pest pressure because they are more mature and stronger when you put them in the ground.
- Lets me plan exactly how many plants I need and allow for succession planting.
- ► Easier to keep the seed bed moist with a seedling flat in the greenhouse than in the field.

Do you have the infrastructure to grow seedlings?







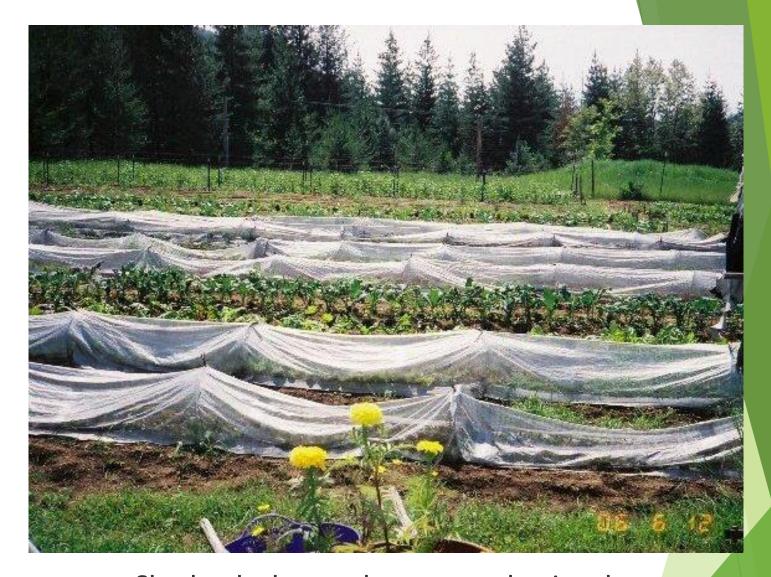
Apprentices Erin & Angela plant seeds in plug trays

To keep a steady supply of lettuce and beets all summer long, we seed every four weeks, grow them up to seedling size, and transplant out into prepared beds in the garden.

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The use of transplants is another way of getting an earlier start to the season. Harvests of transplanted crops tend to be as much as 3 to 4 weeks ahead of direct-seeded fields. Transplants are generally better able to compete with weeds than young seedlings are.



Shade cloth over lettuce and spinach protects cool loving crops from the hot sun.



Shade House



Always plan for the coldest, hottest, wettest, driest season in recorded history!

No matter where you live, mother nature has a way of challenging the growing season with variables.

Using season extension will help you adjust to whatever the weather brings into your garden.





Using low tunnels inside a hoop house provides additional frost protection spring and fall...



## Planning with a Crop Calendar

Create a Seeding and Planting Calendar

- Count back from the date of the last frost and note on your calendar weeks from last frost date.
- How many weeks are needed to have a decent sized transplant?
- Seed catalogs & seed packets will tell you when to start growing seedlings noting sowing instructions like "seed indoors 6-8 weeks before last frost."



■ February	√ February							
Sun	Mon	Tue	Wed	Thu	Fri	Sat		
		1	2	3	4	5		
*12 WEEKS TILL FROST	7 <u>Vegetables</u> • Onions • Leeks • Tomatoes • Peppers • Eggplant	8 <u>Vegetables</u> Broccoli Cauliflower Cabbage Kale Fennel	9 Herbs Cutting Celery Oregano Marjoram Chives Parsley	10	11	12		
13	14 Flowers Strawflower Ammi Celosia Calendula Zinnia Feverfew Aster	15 Flowers  Monarda Statice Artemesia Salvia Mignonette Ageratum	16	17	18	19		
*10 WEEKS TILL FROST	Vegetables     Assorted     Lettuces     Beets     Swiss Chard	22	23	24	25	26		
27	28	29	30	31	Notes: If space seed all of the b since they can t temperatures ar outside earlier.	olerate cooler		

### Planting /Seeding Calendar

We typically seed all of our brassicas (broccoli, cabbage, cauliflower, kale, kohlrabi) first on the 12 weeks till frost date so we can move them out of the greenhouse as soon as possible.

The brassicas can tolerate cooler weather in the hoop house which gives us more room to germinate and grow the next round of seedlings, which are usually tomatoes, peppers, and eggplant.



### Seed starting/planting records

Greentree Naturals Seed Planting Records 2016

1

	Α	В	C	D	E	F	G	Н	1
1	Needs	TYPE	VARIETY	DATE	SOURCE	SEEDED	TRANSPLANTED	SEEDED	TRANSPLANTED
2		BEANS BUSH							
3			Haricot Vert Maxibel		Greentree Naturals				
4			Haricot Vert Tavera		High Mowing				
5			Haricot Vert Coban		High Mowing				
6			Provider		High Mowing				
7			Provider		Greentree Naturals				
8			Rocquencourt		JohnnySeed				
9			Royal Burgundy (bush)		High Mowing				
10			Indy Gold (bush)		JohnnySeed				
11			Dragon Lingerie (bush	)	Greentree Naturals				
12			Blue Coco (pole)		High Mowing				
13			Garden of Eden (pole)		JohnnySeed				
14			Rattlesnake (pole)		High Mowing				
15			Northeaster (pole)		Greentree Naturals				
16		DRY BEANS	Vermont Cranberry		High Mowing				
17			Tiger Eye		Fedco				
18			Jacobs Cattle		High Mowing				
19			Silver Cloud Cannellini		Fedco				
20			Anasazi		Navajo Heirloom				
21			Black turtle		Greentree Naturals				
22			Yin Yang		Greentree Naturals				
23			Indian woman yellow		Greentree Naturals				



### Seeding & Transplanting Record Keeping

- •We also keep track of where the seed came from. There are lots of ways to do this, all that matters is that you do it!
- •If you review this seeding list from 2010, you'll see that I seeded 54 Arcadia Broccoli but only had 36 to transplant out. Sometimes seeds don't germinate or something happens and they don't survive.
- •As a market grower, we need to know exactly how many plants we have to be transplanted and this method helps us stay on track. In 2010, we had to reseed peppers several times to meet our needs in the fields.

	2	010	h
Nate	Variety	Amount Socded	traplats
3-7	Broccoli, De Cicco (garmet Seed) os	36	28 "
,	Broccoli, Arcadia (Johnny's)	54	36 "
	Broceoli, Belstar (Johnnys)	36	16 (3/17)
	" green Magic (+)	54	32 "
	" green Magic (+) " thompson (Fedco) OG	54	10 (3/11)
	CABBAGE, Bilko (J) chinese oG	42	38 3/17
	CABBAGE, Intego Rod (1)	44	32 (3/19)
-	CABBAGE, Red Express (1)	48	44 (3/19)
1	CABBAGE, FARAO (1) OG green	66	52 ×
	CAULIFLOWER. VIOLET QUEN (J)	52	560 11
	CALLIFLOWER FREMONT (7)	44	37 (3/19)
	KALE NOGOYA garnol Red (I)	40	21 (3/12)
	KALE, Red RUSSIAN (O)	54	43 010
	KARE, Red GOR (T)	20	No germ
	KALE, Dwarf Siberian (Territorial)	34	32 (3/19)
	KALE, NENODITOSCANA (T)	34	16 (3/A)
-	BASIC, Mammoth Lettuce leaf Canducis	1000	36+36+36+36
	EGGplant Dusky (Fedico (2005)	32	1
1	EGG plant, KAMO (J)	36	3
	EGG plant, Galine Halian (J)	17	9 (3/25)
	PEPPERS, GYPSY (Territorial)	4	2 3/30
	PEPPERS, HEALTHY (T)	29	3 (3/27)
	PEPPERS, APPLE (1)	27	1219 20 "
+	PEPPERS, Antohi Romanian (T)	36	18 (331)
	Peppers, Purple Beauty (gourne)	36	1 (130)
190	Peppers, Jingle Bells (7)	15	6 (331)

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## Questions for Diane?

Gardening is an exercise in optimism.

Sometimes, it is a triumph of hope over experience.

