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https://docs.google.com/spreadsheets /d/1hgyEnhoVsn8lNZa6 uEhRLkfsDP2 Tbcm_6WcROalb54/edit?usp=sharing



Department of Agriculture

Natural Resources Conservation Service

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A6 - Pumpkins	B6 - Watermelon	C6 – Composting							
A5 – Onions	B5 – Carrots	C5 – Squash / Beans							
A4 – Garlic / Herbs	B4 – Spinach / Beets	C4 – Squash / Beans							
A3 – Sweet Corn	B3 – Tomato / Pepper	C3 – Peas > Sweet Potato							
A2 – Sweet Corn	B2 - Natives	C2 – Sweet Potato							
A1 – Brassicas (kale / Pac Choi)	C1 - Sweet Potato								
	Eagle Creek Trail								

SWCD Demo Garden

- 16 Growing Beds
- 36" wide and 25' feet long
 - Some growers do 30", some do 48"
- Mulched pathways (18" wide)
- Mulching with compost, shredded leaves, straw, looking at woodchips for pathways
- Soil testing and organic fertilizers (feathermeal, sulfur) but bank on soil health and organic matter for major fertility
- Strategic cover cropping
- Tarps, sandbags, steel rake, tine rake, stirrup and collinear hoes, trowel, earthway seeder, sickle, weedwhacker
- Plus 2 perennial beds (25' x 10') of Wildlife Habitat for beneficial insects and pollinators



















_	2022								
	March	April	Мау	June	July	August	September	October	Winter
A6	> WK HB	Oats	/ Peas / Phacelia	Watermelon			Cer	eal Rye / Legumes	
A5	> OW HB	Spinach /	Beets		Buckwheat / Be	erseem			
A4	> OW LEG	Arugala /	Pac Choi / Brocolli	/ Kale	Buckwheat / Be	erseem	Oats (IS)	Garlic	
A3	> OW HB			Sweet F	Potatoes		Oat	s / Hairy Vetch	
A2	>OW HB			Sweet Potato	bes		Oat	s / Hairy Vetch	
A1	> OW HB		Tomato	/ Pepper			Oat	s / Hairy Vetch	
B6	> OW LB	Oats / Phacelia / Fie	eld Peas		Summer Cover	r Crop	Oats / Field Peas / Crim	i son Clover	
B5	> Garlic				Summer Cover	r Crop	Oats / Field Peas		
B4	>WK LB	Onions			Buckwheat		Oats / Field Peas		
B3	> WK LB Sp	binach / Lettuce			Beets		Cereal Rye / Legun	nes	
C6	Compost Area	3 yards leaf co	mpost						
C5	> WK HB	Oats / Peas / Phace	lia Sweet C	Sorn	Legumes	(IS)	Cereal R	ye / Legumes	
C4	> OW HB		Sweet C	örn	Legumes	(IS)	Cereal R	ye / Legumes	
C3	> OW HB		Sorghun	n Sudangrass / Bers	eem / Crimson / Oats				
C2	> OW HB		Squash	/ Beans			Spinach / Pac Choy	Cere	al Rye
C1	> OW HB			Sq	uash / Winter Squash			Cereal Rye / Legum	es (IS)

My Crop Rotation Strategy

1. Wait to plant the same crop family on a bed for as much time as practically possible (2 to 4 years)

2. Use as many cover crops as possible to enhance soil & next crop

3. Group crops spatially that have similar tarping and timing needs

4. Consider the impact of adjacent beds (light, vegetative sprawl)

5. Review crop and cover crop sequences and keep the best

My Cover Crop Strategy

Fall-planted winterkill cover crops before early spring crops

- Oats and Peas

Fall-planted overwintering high biomass cover crops before late spring crops

- Cereal Rye
- Cereal Rye and Legumes

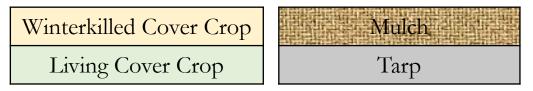
Fall-planted overwintering legumes before spring brassicas

- Oats and Crimson Clover
- Oats and Hairy Vetch



Spring Crop Plan

Cover Crop	Species	Feb	March	April	May	June
			Leafy Greens			
Winterkilled	Oats Field Pea		Onions			
W interkilled	Radish		Peas			
				Leafy Greens		
Overwintering Low Rieman	Oats			Kale		
Overwintering Low Biomass	Legumes				Corn	
					Tomatoes	
					Peppers	
Overwintering High Biomass	Cereal Rye Legumes				Green Beans	
	Leguines				Squash	
						Squash



SWCD Demo Garden

Squash / Beans Cereal Rye Cereal Rye / Legumes Squash Oats / Hairy Vetch Corn Corn Oats / Hairy Vetch Kale / Pac Choi Oats / Crimson Clover Sweet Potato Cereal Rye / Legmes Tomato / Pepper Cereal Rye / Legumes Lettuce / Spinach Oats / Peas Onions Oats / Peas Oats / Peas Garlic Beets / Spinach Oats / Peas

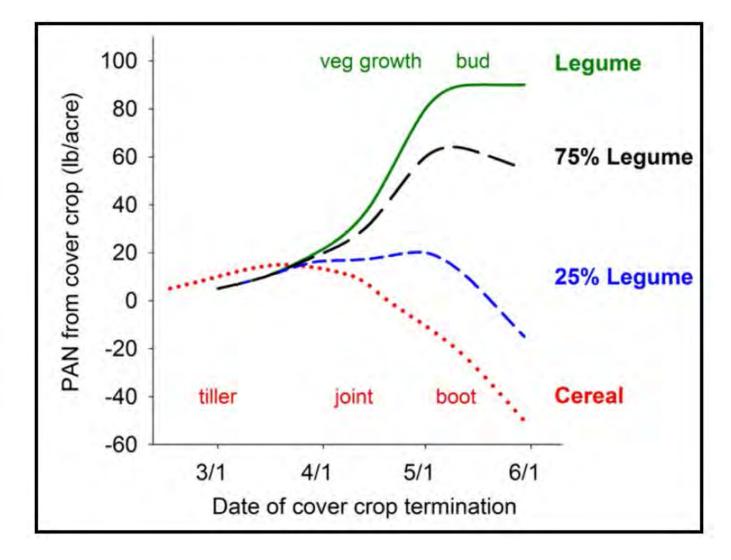


Figure from PNW 636, Estimating Plant-available Nitrogen Release from Cover Crops (Sullivan and Andrews, 2012), ©Oregon State University

FoodLink www.purdue.edu/FoodLink

Seasonal Chart for Indiana Fresh Produce

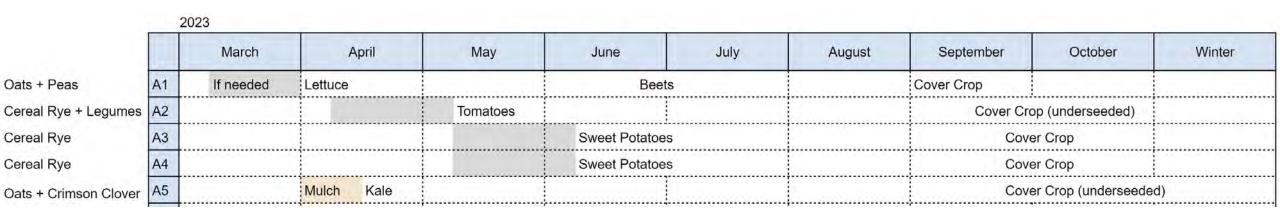
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beet Image: Second image:												VEGETABLES
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Brussel sprouts I												beet
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kale, collard greens Image: solution of the solu								1				eggplant
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onion (green) I <												lettuce (leaf)
peppers (hot and sweet) Image: Solution of the system												onion (bulb)
potatoIII <tdi< td=""></tdi<>												onion (green)
pumpkin radish snap bean spinach summer squash sweet corn sweet potato tomato tomato turnip and turnip greens winter squash pple blackberry blackberry blackberry cherry grape melons (cantaloupe, watermelon) pear raspberry and <												peppers (hot and sweet)
radish a snap bean spinach summer squash sweet corn sweet potato tomato apple blackberry											1	potato
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cherry Image												blackberry
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strawberry strawberry												



NOTE: Northern and southern Indiana seeding dates for the tables below are divided on a general line along US 36 from Illinois to Indianapolis and US 40 from			great		enefit	for va rios st	arious		wheat		after :	/I after s seed c silage /egeta	com	ans		1				
Indianapolis to Ohio.	-	_					after	early	veg ch	ops							-			
Plant Species	Ma	rch	Ap	oril	M	ay	Ju	ine	Ju	ly.	Aug	ust	Se	pt,	0	ct.	No	ov.	Dec-	Feb
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Buckwheat			1		S	IN	IN	IN	IN	IN	IN	IN	R		1.1		-			
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Cowpea/Soybeans	111	1_1			S	IN	IN	IN	IN	M	3		-		511			1997		
Flax	-	R	IN	IN						M	IN	IN			1.11		1			
Kale	1.1	R	S	IN	IN	IN	IN	IN	M	M	M	IN	IN	IN	IN	IN	R	1.1		
Millet, Japanese/Pearl	1973	- 5- 1	1		S	IN	IN	IN	IN	IN	3	1	1		11.1		1			
Oats, (Spring & Black)	R-2	S	IN	IN	IN	IN	IN	M	M	M	M	IN	IN	3	1.11			1.1		
Pea, (Field/Spring/Winter)	R-2	S	IN	IN	N						N	IN	IN	IN	R		-			
Phacelia		R	IN			-		1.1.1		M	IN	IN	IN	R				-	-	-
Radish, Oil Seed	1.1.1				1	1		1.8.1			M	IN	IN	R	1.1.1				-	
Rapeseed	1					-				M	IN	IN	IN	IN	IN	IN	R	-		
Rye, Winter Cereal	R-2	11.1			1.0	-					N	IN	IN	IN	IN	IN	IN	1	F-2	F-1
Ryegrass, Annual	R-2	S	IN	IN	IN	N				1	N	IN	IN	IN	R				F-2	F-3
Sorghum-Sudangrass	1. 2		11.0				-	-			-	11.4		114		-	-			-
/Sudangrass /Milo	11					IN	IN	IN	IN	IN	IN	IN-3	S-3			1.1	1	5-1		
Soybean, (Forage & Field)			1		S	IN	IN	IN	IN	IN	IN-3	S-3	_							
Sunflowers		-	-	S	IN	IN	IN	IN	IN	IN	S	2.2			-	-	-		-	
Sunn Hemp	-	-		9	S	IN	IN	IN	IN	S	-					-	-		-	-
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Turnips/Pasja	S-4	IN-4	IN-4	-	-	_	-	-	M	IN	IN	IN	IN	R	-	-	-	-		-
Vetch, Hairy	17	S	IN		-		1	111		IN	IN	IN	IŅ	IN	S	-	-		1.00	-
Wheat, (Winter & Spelt)	(11)					_	1.1				R-1	R-1	R-1	R-1	IN	R				
 ^{3/} Risk for Hession Fly-Free Date ^{2/} Dormant/Frost/Early seeding fiseeding rates by 25%. ^{3/} Expect lower biomass and proce ^{4/} Bolting risk 	rom De	ecembe		March.	Increa	se	Lege IN S N R	Suita Addit Addit	ional s ional s	suitabl suitabl	dates e seed e seed ment (S	ling da ling da	ates fo	or Sou	h Nort	hern I	N (~N	orth o	· · · · ·	

Seeding window is part of the IN NRCS Cover Crop Seeding Calculator which can be found on the Field Office Tech Guide (FOTG) and downloaded HERE

My Crop Rotation Strategy



Spring Greens, Onions, Carrots

- 1. Plant oats and peas cover crop the previous fall
- 2. Cover crop winterkills
- 3. Tarp in spring if weedy and if time allows (or cultivate if no time)
- 4. Rake residue off bed into pathways
- 5. Broadfork if needed (especially for longer crops or root crops)
- 6. Add compost if needed
- 7. Use row seeder or transplant crop
- 8. Use tine rake or collinear hoe for cultivation
- 9. Harvest and leave roots in soil if possible
- 10. Tarp if weedy and if time allows (or cultivate if no time)
- 11. Rake smooth
- 12. Plant next crop









































Collinear hoes, tine rakes, and wire weeders



























Sweet Potato

- 1. Plant cereal rye cover crop the previous fall
- 2. Or plant spring cover crop mix in early April (oats/peas/phacelia)
- 3. One month before planting sweet potatoes, crimp/cut and tarp cover crop
- 4. Untarp
- 5. Broadfork
- 6. Plant slips (12" spacing)
- 7. Add strip of compost near slips to warm bed
- 8. Spot hand weed through season
- 9. When ready to harvest, chop/cut residue and rake to side
- 10. Broadfork down each side of bed to lift soil and harvest
- 11. Rake soil smooth
- 12. Plant cover crop by broadcasting and/or row seeder
- 13. Return crop residue to bed











If I had a power harrow...

















































Kale

- 1. Plant oats and crimson clover (and/or hairy vetch) the previous fall
- 2. Mow/cut cover crop in spring 10 days before planting kale
- 3. Add layer of newspaper and straw for weed suppression and to prevent cover crop regrowth
- 4. Wait 10 days, then open up transplant spaces
- 5. Transplant
- 6. Harvest continuously throughout season
- 7. Spot weed by hand if needed
- 8. In fall, plant cover crop under Kale by either broadcasting into mulch or removing mulch and using a row seeder







Pretty blooms in late April or so, and more Nitrogen contribution at flower... But I plant Kale in April, se...

















Cereal Rye tarped in March 1 to Mid-April: Harder to transplant, but good production & soil health.

Add some N to balance











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		March	A	pril	May	June	July	August	September	October	Winter
Oats + Peas	A1	If needed	Lettuce			Beets			Cover Crop		
Cereal Rye + Legumes	A2				Tomatoes				Cover Crop (underseeded)		
Cereal Rye	A3					Sweet Potatoes			Cov	er Crop	
Cereal Rye	A4					Sweet Potatoes			Cov	er Crop	
Oats + Crimson Clover	A5		Mulch	Kale		Cover Cro			er Crop (underseeded)	

_	2022									
	March	April	Мау	June	July	August	September	October	Winter	
A6	> WK HB	Oats	/ Peas / Phacelia	Watermelon			Cer	eal Rye / Legumes		
A5	> OW HB	Spinach /	Beets		Buckwheat / Be	erseem				
A4	> OW LEG	Arugala /	Pac Choi / Brocolli	/ Kale	Buckwheat / Be	erseem	Oats (IS)	Garlic		
A3	> OW HB			Sweet F	Potatoes		Oat	Oats / Hairy Vetch		
A2	>OW HB			Sweet Potato	bes		Oat	Oats / Hairy Vetch		
A1	> OW HB	Tomato		/ Pepper			Oat	s / Hairy Vetch		
B6	> OW LB	Oats / Phacelia / Field Peas			Summer Cover Crop Oa		Oats / Field Peas / Crim	ts / Field Peas / Crimson Clover		
B5	> Garlic				Summer Cover	r Crop	Oats / Field Peas			
B4	>WK LB	Onions			Buckwheat		Oats / Field Peas			
B3	> WK LB Spinach / Lettuce				Beets		Cereal Rye / Legun	nes		
C6	Compost Area	3 yards leaf co	mpost							
C5	> WK HB	Oats / Peas / Phace	elia Sweet Corn		Legumes (IS)		Cereal R	Cereal Rye / Legumes		
C4	> OW HB		Sweet C	orn	Legumes (IS)		Cereal R	Cereal Rye / Legumes		
C3	> OW HB		Sorghun	n Sudangrass / Bers	eem / Crimson / Oats					
C2	> OW HB		Squash	/ Beans			Spinach / Pac Choy	Cereal Rye		
C1	> OW HB			Sq	uash / Winter Squash		Cereal Rye / Legumes (IS)			

Garlic

- 1. Plant oats and peas cover crop
- 2. Chop down cover crop
- 3. Rake off debris
- 4. Broadfork
- 5. Amend soil
- 6. Dibble
- 7. Plant cloves and cover
- 8. Mulch well with straw or leaf mulch

Spacing

6" between cloves in a row

12" between rows (0", 12", 24", 36")









Maybe.... Maybe not...



