Solarization—Cooler Regions

<u>STEP 1</u> —S	ite Record (SA	AVE A COPY OF	This timeline $\&$ checklist for your records)
SITE NAME:			START DATE:
WEED PRESS	SURE BEFORE TRE	ATMENT:	PRIMARY WEED SPECIES TARGETED:
High	Moderate	Low	

STEP 2—Cooler Regions Solarization Timeline & Checklist

This timeline is ideal for small plantings (e.g., strip plantings or wildflower plots, less than $\frac{1}{2}$ ac) in sunny areas with moderate to high weed pressure in cooler regions (e.g., Upper Midwest, Northeast).

RECOMMENDED TIMELINE			A	СТІVІТҮ	DATE CO	MPLETED YEAR 2 [†]
Curiu u	STEP 1	Obtain plastic.				-
Spring Step 2		Mow or cultivate	site.			
Early-mid-spring	STEP 3	Dig trench around	d perimeter, lay p	lastic, bury edges.		
Late spring	STEP 4	Check plastic for h	holes; repair any h	noles with greenhouse repair tape.		
Summer	Sтер 5	EARLY SUMMER MID-SUMMER LATE SUMMER		ck plastic for holes; repair any holes with e repair tape.		
	the following	,		Low weed pressure → High to moderate weed pressure →	Go to Ster	
				TEPS 4–5) and return to STEP 7 in the fall of	G 0 васк то	STEP 4
Fall			Unbury all edges and remove plastic, <u>or</u>			
		Remove plastic:		Unbury three edges and flip plastic to adjacent area (repeat STEPS 2–6 on the new area [‡]); then		
	STEP 8	Carefully remove	perennial weeds	by hand. DO NOT CULTIVATE.		
Fall/winter*	STEP 9	Seed pollinator m	nix into the prepai	red area.		

- Dormant season
- † A second year of site preparation may be necessary on sites with high weed pressure.
- ‡ Start a new timeline & checklist for the adjacent area.
- m Timeline & checklist originally published in the Xerces Society guidelines, Organic Site Preparation for Wildflower Establishment.
- Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-guides

ADDITIONAL PROJECT NOTES:	



ORGANIC SITE PREPARATION Solarization—Warmer/Semi-Arid Regions

FE NAME: EED PRESSUR	RE BEFOR	E TREATMENT:	PRIMARY WEED SPECIES TARGETED:	
High	Moderate	e Low		
P 2—Wa	rmer/	Semi-Arid Re	egions Solarization Timeline & Che	cklist
iis timeline is i	deal for sr	nall plantings (e.g.,	strip plantings or wildflower plots, less than $\frac{1}{2}$ ac) in significant egions (e.g., California).	
COMMENDED T	IMELINE		ACTIVITY	DATE COMPLETE YEAR 1 YEAR
Cuuiu u	STEP 1	Obtain plastic.		
Spring STEP 2		Mow or cultivate s	site.	
arly summer	STEP 3	Dig trench around	l perimeter, lay plastic, bury edges.	
Summer	STEP 4	MID-SUMMER	Regularly check plastic for holes; repair any holes with	
Julilliei	JIEP 4	LATE SUMMER	greenhouse repair tape.	
	STEP 5	A. Assess weed g the plastic:	prowth under Low weed pressure → High to moderate weed pressure →	Go to Step 6 Go to Step 5B
	B. Continue so following y		rization (repeat STEP 4) and return to STEP 7 in the fall of the :	GO BACK TO STEP 4
Fall	Ѕтер б	Remove plastic:	Unbury all edges and remove plastic, c Unbury three edges and flip plastic to adjacent area (repeat Steps 2–4 on the new area [‡]); then	
	STEP 7	Carefully remove p	perennial weeds by hand. DO NOT CULTIVATE.	
all/winter*	STEP 8	Seed pollinator mi	ix into the prepared area.	
# Start a new Timeline & Download	ear of site p timeline & checklist or	checklist for the adjace iginally published in the copies of this timeline a	cessary on sites with high weed pressure. ent area. ne Xerces Society guidelines, <i>Organic Site Preparation for Wildflo</i> and other resources at: <u>www.xerces.org/pollinator-habitat-instal</u>	



Buckwheat Smother Crop—East/Midwest

<u>STEP 1</u> —S	ite Record (sa	AVE A COPY OF	This timeline $\&$ checklist for your records)	
SITE NAME:			START DATE:	
WEED PRESS	URE BEFORE TRE	ATMENT:	PRIMARY WEED SPECIES TARGETED:	
High	Moderate	Low		

STEP 2—Buckwheat Smother Crop Timeline & Checklist—East/Midwest

This timeline is ideal for larger areas of low to moderate weed pressure on farms in the East/Midwest where cultivation equipment is available, and farmers/operators are already experienced with successful cover cropping.

RECOMMENDED T	IMELINE	ACTIVITY	DATE COMPLETED YEAR 1 YEAR 2 [†]
Early spring	STEP 1	As soon as the field is accessible, mow existing vegetation to the ground. Then lightly cultivate project area (1–2" depth).	
Spring ¹	STEP 2	Repeated shallow cultivation (≤2" depth) to eliminate emerging weed seedlings and break up soil clumps.	
Mid–late spring	STEP 3	Assess weed pressure. Continue to eliminate germinating weed seedlings.	
		A. Prepare seedbed. Lightly rake or harrow project area to remove all remaining vegetation, residue, or thatch, then immediately plant buckwheat.	
Late spring (∼mid-June)	Sтер 4	B. Drill seed 50–60 lb/ac at 0.5–1" deep in 6–8" rows; <u>or</u> Broadcast seed at a minimum rate of 70 lb/ac. Use a drag/chain harrow to incorporate seed.	
		C. Irrigate seedbed after seeding until germination.	
Late spring ²	STEP 5	Assess for gaps in germination and re-seed bare spots as needed.	
Summer ³	S TEP 6	Terminate buckwheat cover crop before seed set. Then immediately plant a second buckwheat crop.	
Early fall⁴	STEP 7	Mow or incorporate cover crop. Leave residue on soil surface.	
		Low weed pressure → A. For sites with:	Go то Step 9
Fall	STEP 8	High to moderate weed pressure →	Go то Step 8в
. 411	3.21	B. Return to Step 3 the following spring and repeat process for an additional growing season. Consider planting a winter cover crop.	Go back to Step 3
Late fall	STEP 9	Remove all residue and expose soil. Plant a nurse crop of oats at 20 lb/ac before September 15 th . Seed recommended pollinator mix into oats.	

- 1. 2–3 week after first disking
- 2. One week after planting
- 3. 35–40 days after seeding
- 4. 35 days after second seeding
- † A second year of site preparation may be necessary on sites with high weed pressure.
- m Timeline & checklist originally published in the Xerces Society guidelines, Organic Site Preparation for Wildflower Establishment.
- Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-guides



ORGANIC SITE PREPARATION Lacy Phacelia Smother Crop—East/Midwest

SITE NAME:			START DATE:		
WEED PRESSUR	E BEFORE	TREATMENT:	PRIMARY WEED SPECIES TARGETED:		
High	Moderate	Low _			
STEP 2—Lac	cy Pha	celia Smother Cro	op Timeline & Checklist—East/ <i>l</i>	Midwest	
			oderate weed pressure on farms in the East/Mic lready experienced with successful cover cropping		ultivatio
RECOMMENDED T	IMELINE		ACTIVITY	DATE COMP	PLETED YEAR 2 [‡]
Late winter/early spring^	Sтер 1 [△]	Lightly cultivate (disk) pro	oject area (1–2" depth).		
	STEP 2		sking, shallow cultivation of site (≤2" depth) to lings and break soil clumps.		
Spring	STEP 3*	Lightly harrow or rake to p	prepare seed bed*.		
	STEP 4 *	A. Seed Phacelia tanacet	tifolia*.		
		B. 1 week after plantin needed.	ng, assess for gaps in germination, and reseed as		
Summer-fall	STEP 5	Irrigate occasionally only rainfall during spring-	rif needed (i.e., twice per month in absence of -summer).		
Summer	S TEP 6	High mow [‡] if significant v	weed germination in project area.		
	Sтер 7	A. For sites with:	Low weed pressure →	Go то Step 8	}
		7. For sites with.	High to moderate weed pressure $ ightarrow$	Go то Step 7	В
Fall		B. Mow vegetation, <u>and</u>	return to STEP 3 in early spring.		
	STEP 8 [†]	Flail/low mow vegetation mix.	and immediately seed recommended pollinator		
* Be careful t † Seed recom ‡ A second y Timeline &	his step imr o avoid dan nmended po ear of site p checklist or additional c	mediately after previous step. naging the growing tips of the ollinator mix immediately after reparation may be necessary o iginally published in the Xerces opies of this timeline and othe			<u>.</u>



Lacy Phacelia Smother Crop—West

<u>STEP 1</u> —S	ite Record (sa	AVE A COPY OF	This timeline $\&$ checklist for your records)	
SITE NAME:			START DATE:	
WEED PRESS	URE BEFORE TRE	ATMENT:	PRIMARY WEED SPECIES TARGETED:	
High	Moderate	Low		

STEP 2—Lacy Phacelia Smother Crop in the West Timeline & Checklist

This timeline is ideal for larger areas of low to moderate weed pressure on farms in the West where cultivation equipment <u>AND</u> <u>access to irrigation</u> is available, and farmers/operators are already experienced with successful cover cropping.

RECOMMENDED T	IMELINE		ACTIVITY	DATE COMPLI	ETED EAR 2 [‡]
Fauly Octobor	STEP 1 ^A	A. Pre-irrigate sit			
Early October	STEP 2	B. Lightly cultiva			
Early/mid-	S TEP 3 *	Lightly harrow or	rake to prepare seed bed*.		
October	STEP 4 *	Seed <i>Phacelia tar</i>	nacetifolia*.		
October–February	STEP 5	Irrigate occasiona	ılly in absence of rainfall.		
		MARCH	Irrigate if necessary*; <u>and</u> High mow [†] if significant weed germination in project area.		
	S тер 6	APRIL	Irrigate if necessary; and High mow if significant weed germination in project area.		
Marsh Arranet		MAY	Irrigate if necessary; <u>and</u> High mow if significant weed germination in project area.		
March—August		JUNE	Irrigate if necessary; <u>and</u> High mow if significant weed germination in project area.		
		JULY	Irrigate if necessary; <u>and</u> High mow if significant weed germination in project area.		
		AUGUST	Irrigate if necessary; and High mow if significant weed germination in project area.		
		A. For sites with:	Low weed pressure →	G0 то Step 8	
October	STEP 7	High to moderate weed pressure $ ightarrow$		Go то Sтер 7в	
		B. Mow vegetat	ion, <u>and</u> return to STEP 3 in early spring.		
November	STEP 8	A. Flail/low mov	v vegetation; <u>and</u>		
Novellibel	JIEP O	B. Seed recomm	nended pollinator mix.		

- \triangle As early in the season as possible.
- * Complete this step immediately after previous step.
- * Even in absence of rainfall during spring-summer, do not irrigate more than twice a month from March to August.
- Be careful to avoid damaging the growing tips of the phacelia.
- ‡ A second year of site preparation may be necessary on sites with high weed pressure.
- Timeline & checklist originally published in the Xerces Society guidelines, Organic Site Preparation for Wildflower Establishment.
- Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-guides



Repeated Shallow Cultivation

SITE NAME: _		START DATE:	
WEED PRESSU	RE BEFOR	E TREATMENT: PRIMARY WEED SPECIES TARGETED:	
High	Moderate	e Low	
TEP 2—Re	epeated	d Shallow Cultivation Timeline & Checklist	
This method is wailable.	ideal for la	arge areas with low weed pressure (e.g., former cropland) on farms where	cultivation equipme
ECOMMENDED	TIMELINE	ACTIVITY	DATE COMPLETE
	STEP 1	As soon as the field is accessible, mow existing vegetation to the ground.	
Early spring	STEP 2	Follow mowing with a one-time treatment of deep cultivation before winter/spring annual weeds go to flower.	
Mid-May	Sтер 3	First treatment of shallow cultivation (disturbing only top 2" of soil) using a disk/tine harrow or sweep cultivator.	
June	STEP 4	Repeat shallow cultivation, as needed.	
July	Ѕтер 5	Repeat shallow cultivation, as needed.	
August	Ѕтер 6	Repeat shallow cultivation, as needed.	
	STEP 7	Repeat shallow cultivation, as needed.	
September STEP 8		Optional: Plant a nurse crop of oats (20 lb/ac) before September 15 th .	
November	STEP 9	Seed recommended pollinator mix into oats.	
	d additional o	riginally published in the Xerces Society guidelines, <i>Organic Site Preparation for Wildflow</i> copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-install-resources at: www.xerces.org	



Sheet Mulching

STEP 1—S	ite Record (SA	AVE A COPY OF	This timeline $\&$ checklist for your records)	
SITE NAME:			START DATE:	
WEED PRESS	URE BEFORE TRE	ATMENT:	PRIMARY WEED SPECIES TARGETED:	
High	Moderate	Low		

STEP 2—Sheet Mulching Timeline

This method is ideal for small sites on farms where appropriate mulching materials (e.g., straw and composted animal manure) are readily available. Weed growth is suppressed by creating a barrier of layered carbon- and nitrogen-rich mulch.

RECOMMENDED TIMELINE		ACTIVITY	DATE COMPLETED
	STEP 1	Mow or flatten existing vegetation.	
Winter–late	STEP 2	Aerate compacted soils.	
spring	S TEP 3	Deeply water arid or semi-arid sites.	
STEP 4		Layer sheet mulch, watering each layer.	
Summer (arid or semi-arid)	STEP 5	Keep your sheet mulch moist throughout the growing season, but neither too dry nor too wet. Irrigate if needed in dry climates.	
	Sтер 6	A. For sites established using: Seeding →	Go то Step 7
		Transplants →	G o то S тер 6 в
Late fall/early winter	SIEPO	B. Plant transplants directly into the sheet mulch in the fall or the following spring. SKIP STEPS 7 & 8.	
	STEP 7	Remove top carbon-based layer of sheet mulch.	
	STEP 8	Seed recommended pollinator mix into nitrogen-based compost layer.	

STEP 3—Sheet Mulching Checklist

	LAYER#	DEPTH	MULCHING MATERIALS USED	RECOMMENDED MATERIALS & DEPTH
	Layer 6 (тор):	"		1—2" Carbon-based materials (wood bark, chips, sawdust, or shavings)
	Layer 5:	"		1—3" Nitrogen-based materials (composted animal or plant materials)
	Layer 4†:	"		1—3" Carbon-based materials (crop residues, hay, hulls, leaves, peat moss, or straw)
5	Layer 3†:	"		1 " Nitrogen-based materials (any from the list)
5	Layer 2:	"		1/4—1/2" Carbon-based materials (corrugated cardboard, newspaper, or recycled paper)
(22 E	Layer 1* (воттом):	"		1 " Nitrogen-based materials (meals, grass clippings, green prunings, grounds, pellets, or seaweeds)

- * Layer 1 should be placed on mown vegetation after the soil has been aerated and deeply watered (if necessary).
- Water previous layer.
- Thoroughly water previous layer.
- † Omit Layers 3–4 on sites with low weed pressure.
- Timeline & checklist originally published in the Xerces Society guidelines, *Organic Site Preparation for Wildflower Establishment*.
- Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-quides



Soil Inversion

SITE NAME:			PRIMARY WEED SPECIES TARGETED:			
WEED PRESSUR	RE BEFORE	ETREATMENT:				
High	Moderate	Low				
STEP 2—So	il Inver	rsion Timeline	e & Checklist			
This method is it equipment is ava		eas of moderate to h	igh weed pressure (including sod-forming grasses) on fa	arms where appropriat		
RECOMMENDED T	IMELINE		ACTIVITY	DATE COMPLETED		
Consider	STEP 1	Prior to plowing the	e site, mow existing vegetation to the ground.			
Spring	STEP 2	Use moldboard plo	w to overturn plant residue and invert the soil surface.			
Late spring	Sтер 3		later, disk the site. Time disking in advance of expected ed germination.			
, , ,	STEP 4	Immediately seed y	our pollinator mix into your prepared site.			
Download			nd other resources at: <u>www.xerces.org/pollinator-habitat-installat</u>	<u>ion-guides</u>		



Organic Herbicide Applications

ITE NAME:		(SAVE A COPY OF THIS TIMELINE	START DATE:	
VEED PRESSUR	E BEFORI	TREATMENT: PRIMAR	Y WEED SPECIES TARGETED:	
High	Moderate	Low		
EP 2—Or	ganic I	lerbicide Applications	s Timeline & Checklist	
		uations where weeds are at seedli effective against common weeds o	ng stage, organic herbicides are already b on-site.	veing used on the far
COMMENDED T	IMELINE	A	СТІVІТҮ	DATE COMPLETED
Winter/early spring	STEP 1	Begin herbicide applications.		
Spring (~mid-May)	Sтер 2	Repeat herbicide applications regulation going to flower.	ularly to prevent newly germinated weeds	
June	Ѕтер З	Repeat herbicide applications, as r	needed.	
July	STEP 4	Repeat herbicide applications, as r	needed.	
August	STEP 5	Repeat herbicide applications, as r	needed.	
Fall	S тер 6	Lightly cultivate area to be planted		
(September)	STEP 7	Immediately seed pollinator mix in	nto the prepared area.	
	additional c	opies of this timeline and other resource	guidelines, Organic Site Preparation for Wildflowe es at: www.xerces.org/pollinator-habitat-installat	



Sod Removal

High Moderate Low TEP 2—Sod Removal Timeline & Checklist Sod removal is an excellent method for quickly converting very small areas (e.g., patches of lawn) to native wildfle plantings. RECOMMENDED TIMELINE Late summer/early fall STEP 1 Pre-water the site 24 hours in advance to loosen the soil before cutting. (Rent equipment as necessary in advance.) STEP 2 Cut sod strips out of select area and remove from site. A. For sites established using: Seeding → Go To STEP 4 Transplants → Go To STEP 4. Late fall/winter STEP 4 Sow seeds into bare soil during the dormant season. Notes: Dimenine & checklist originally published in the Xerces Society guidelines, Organic Site Preparation for Wildflower Establishment. Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-guides Dittional Project Notes:	SITE NAME:				START DATE:	
Sod removal is an excellent method for quickly converting very small areas (e.g., patches of lawn) to native wildfled plantings. Complete Step 1 Pre-water the site 24 hours in advance to loosen the soil before cutting. (Rent equipment as necessary in advance.) Step 2 Cut sod strips out of select area and remove from site. A. For sites established using: Seeding → Go to Step 4	WEED PRESSUR	E BEFOR	E TREATMENT:	PRIMAR	Y WEED SPECIES TARGETED:	
ACTIVITY DATE COMPLETE Late summer/early fall STEP 1 Pre-water the site 24 hours in advance to loosen the soil before cutting. (Rent equipment as necessary in advance.) STEP 2 Cut sod strips out of select area and remove from site. A. For sites established using: STEP 3 B. Install transplants in the fall (or the following spring). SKIP STEP 4. Sow seeds into bare soil during the dormant season. Notes: □ Timeline & checklist originally published in the Xerces Society guidelines, Organic Site Preparation for Wildflower Establishment. Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-guides	High	Moderate	Low			
ECOMMENDED TIMELINE Late summer/early fall STEP 1 Pre-water the site 24 hours in advance to loosen the soil before cutting. (Rent equipment as necessary in advance.) STEP 2 Cut sod strips out of select area and remove from site. A. For sites established using: STEP 3 B. Install transplants in the fall (or the following spring). SKIP STEP 4. SOW seeds into bare soil during the dormant season. Notes: Timeline & checklist originally published in the Xerces Society guidelines, Organic Site Preparation for Wildflower Establishment. Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-guides	EP 2—So	d Rem	oval Timeline	& Check	list	
ECOMMENDED TIMELINE ACTIVITY DATE COMPLETE Late summer/early fall STEP 1 Pre-water the site 24 hours in advance to loosen the soil before cutting. (Rent equipment as necessary in advance.) STEP 2 Cut sod strips out of select area and remove from site. STEP 3 A. For sites established using: Seeding → Transplants → Go το STEP 4 B. Install transplants in the fall (or the following spring). SKIP STEP 4. Jate fall/winter STEP 4 Sow seeds into bare soil during the dormant season. Notes: Image: Timeline & checklist originally published in the Xerces Society guidelines, Organic Site Preparation for Wildflower Establishment. Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-guides	Sod removal is	an excelle	ent method for quick	ly converting	y very small areas (e.g., patches o	of lawn) to native wildflo
Step 1 Pre-water the site 24 hours in advance to loosen the soil before cutting. (Rent equipment as necessary in advance.) Step 2 Cut sod strips out of select area and remove from site. Step 3 A. For sites established using: Seeding → Go το Step 4	olantings.					
Late summer/early fall STEP 1 (Rent equipment as necessary in advance.) STEP 2 Cut sod strips out of select area and remove from site. SEEP 3 A. For sites established using: Seeding → Go το STEP 4 Transplants → Go το STEP 3B B. Install transplants in the fall (or the following spring). SKIP STEP 4. Attended to the fall (or the following spring). SKIP STEP 4. Notes: Timeline & checklist originally published in the Xerces Society guidelines, Organic Site Preparation for Wildflower Establishment. Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-guides	ECOMMENDED T	IMELINE		А	CTIVITY	DATE COMPLETE
STEP 2 Cut sod strips out of select area and remove from site. Seeding → Go TO STEP 4 A. For sites established using: Transplants → Go TO STEP 3B B. Install transplants in the fall (or the following spring). SKIP STEP 4. Sow seeds into bare soil during the dormant season. Notes: □ Timeline & checklist originally published in the Xerces Society guidelines, Organic Site Preparation for Wildflower Establishment. □ Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-guides		Sтер 1				ng.
A. For sites established using: Transplants → Go To Step 3B	earry rair	STEP 2	Cut sod strips out of	select area an	d remove from site.	
STEP 3 B. Install transplants in the fall (or the following spring). SKIP STEP 4. ate fall/winter STEP 4 Sow seeds into bare soil during the dormant season. Notes: ☐ Timeline & checklist originally published in the Xerces Society guidelines, Organic Site Preparation for Wildflower Establishment. ☐ Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-guides			A. For sites establish	ed usina:		
Ate fall/winter STEP 4 Sow seeds into bare soil during the dormant season. Notes: Timeline & checklist originally published in the Xerces Society guidelines, Organic Site Preparation for Wildflower Establishment. Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-guides		STEP 3				Go то Sтер 3в
Iotes: Timeline & checklist originally published in the Xerces Society guidelines, Organic Site Preparation for Wildflower Establishment. Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-guides						
Timeline & checklist originally published in the Xerces Society guidelines, <i>Organic Site Preparation for Wildflower Establishment</i> . Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-guides	ate fall/winter	STEP 4	Sow seeds into bare	soil during th	e dormant season.	
	Download	additional c	copies of this timeline and			



Optional Combination Project Plan

STEP 1—Site Record (save a copy of this timeline & checklist for your records)

- 1. Photocopy or print a copy of this form in advance (www.xerces.org/pollinator-habitat-installation-guides);
- 2. Determine which preparation method(s) will have the highest likelihood of success on your site BEFORE beginning the project (see Step 2 below); and
- 3. Attach a copy of this plan to any timelines/checklists used with other site preparation documents for your records.

SITE NAME:			START DATE:	
WEED PRESS	SURE BEFORE TR	EATMENT:	PRIMARY WEED SPECIES TARGETED:	
High	Moderate	Low		
STEP 2—S	elect Site Pr	eparation l	Method(s)	
for Wildflow	ver Establishmen target a variety o	t, available at:	which method(s) to use on your site, see <i>Organic Site Preparation Methods</i> www.xerces.org/pollinator-habitat-installation-guides. <i>Note:</i> In order to it's important to combine weed management techniques to affect as many	
SOLARI	ZATION:	Cooler region	ns, page 1	
		Warmer/sem	ni-arid regions, <i>page 2</i>	
SMOTH	ER CROPPING:	Buckwheat-	–East/Midwest, <i>page 3</i>	
		Lacy phaceli	a—East/Midwest, <i>page 4</i>	
		Lacy phaceli	a—West, page 5	
REPEAT	ED SHALLOW CU	ILTIVATION, pa	ge 6	
SHEET N	MULCHING, page	7		
SOIL IN	VERSION, page 8	}		
ORGAN	IC HERBICIDE AF	PLICATIONS, p	age 9	
SOD RE	MOVAL, page 10			
STEP 3—P	roject Notes	5:		





Optional Combination Project Plan

STEP 1—Site Record (save a copy of this timeline & checklist for your records)

- 1. Photocopy or print a copy of this form in advance (www.xerces.org/pollinator-habitat-installation-guides);
- 2. Determine which preparation method(s) will have the highest likelihood of success on your site <u>BEFORE</u> beginning the project (see Step 2 below); *and*

SITE NAME:	1		START DATE:		
WEED PRES	SURE BEFORE TR	EATMENT:	PRIMARY WEED SPECIES TARGETED:		
High	Moderate	Low			
<u>rep 2</u> —S	elect Site Pr	eparation l	Method(s)		
for Wildflov	ver Establishmen target a variety o	t, available at:	which method(s) to use on your site, see <i>Organic Site Preparation Methods</i> www.xerces.org/pollinator-habitat-installation-guides. <i>Note:</i> In order to it's important to combine weed management techniques to affect as many		
SOLARI	ZATION:	Cooler region	ns, page 1		
		Warmer/sem	ni-arid regions, <i>page 2</i>		
SMOTH	ER CROPPING:	Buckwheat—	–East/Midwest, <i>page 3</i>		
		Lacy phaceli	a—East/Midwest, <i>page 4</i>		
		Lacy phaceli	a—West, page 5		
REPEAT	ED SHALLOW CU	ILTIVATION, pa	ge 6		
SHEET I	MULCHING, page	7			
SOIL IN	VERSION, page 8	}			
	IC HERBICIDE AP		age 9		
	MOVAL, page 10	-			
<u>ГЕР 3</u> —Р	Project Notes	5:			
	-				
***************************************	-				





ORGANIC SITE

ORGANIC SITE PREPARATION Solarization—Warmer/Semi-Arid Regions

STEP 1—Si	te Record (sa	AVE A COPY OF	This timeline $\&$ checklist for your records)	
SITE NAME:			START DATE:	
WEED PRESS	URE BEFORE TRE	ATMENT:	PRIMARY WEED SPECIES TARGETED:	
High	Moderate	Low		

STEP 2—Warmer/Semi-Arid Regions Solarization Timeline & Checklist

This timeline is ideal for small plantings (e.g., strip plantings or wildflower plots, less than $\frac{1}{2}$ ac) in sunny areas with moderate to high weed pressure in warmer/semi-arid regions (e.g., California).

RECOMMENDED T	RECOMMENDED TIMELINE		ļ	ACTIVITY	DATE COMPLET YEAR 1 YEA	ED R 2 [†]
Ci	STEP 1	Obtain plastic.				
Spring	STEP 2	Mow or cultivate	site.			
Early summer	S TEP 3	Dig trench aroun	d perimeter, lay p	plastic, bury edges.		
Summer	STEP 4	MID-SUMMER		eck plastic for holes; repair any holes with		
Julilliei	JIEF 4	LATE SUMMER	greenhou	se repair tape.		
	STEP 5	A. Assess weed	growth under	Low weed pressure →	Go to Step 6	
		the plastic:		High to moderate weed pressure $ ightarrow$	Go то Sтер 5в	
	JILF J	B. Continue sola following yea		STEP 4) and return to STEP 7 in the fall of the	GO BACK TO STEP 4	4
Fall				Unbury all edges and remove plastic, <u>or</u>		
	Sтер 6	Remove plastic:		Unbury three edges and flip plastic to adjacent area (repeat STEPS 2–4 on the new area‡); then		
	STEP 7	Carefully remove perennial weeds by hand. DO NOT CULTIVATE.				
Fall/winter*	STEP 8	Seed pollinator m	nix into the prepa	ared area.		

- A second year of site preparation may be necessary on sites with high weed pressure.
- ‡ Start a new timeline & checklist for the adjacent area.
- m Timeline & checklist originally published in the Xerces Society guidelines, Organic Site Preparation for Wildflower Establishment.
- Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-guides

ADDITIONAL PROJECT	NOTES:		





Lacy Phacelia Smother Crop—West

<u>STEP 1</u> —S	ite Record (s	AVE A COPY OF	this timeline $\&$ checklist for your records)	
SITE NAME:			START DATE:	
WEED PRESS	SURE BEFORE TRE	ATMENT:	PRIMARY WEED SPECIES TARGETED:	
High	Moderate	Low		

STEP 2—Lacy Phacelia Smother Crop in the West Timeline & Checklist

This timeline is ideal for larger areas of low to moderate weed pressure on farms in the West where cultivation equipment <u>AND</u> <u>access to irrigation</u> is available, and farmers/operators are already experienced with successful cover cropping.

RECOMMENDED TIMELINE			DATE COMPLI	ETED EAR 2 [‡]	
Fauly Octobor	STEP 1 ^A	A. Pre-irrigate sit	te as needed.		
Early October	STEP 2	B. Lightly cultiva	ate (disk) project area (≤2" depth).		
Early/mid-	S TEP 3 *	Lightly harrow or	rake to prepare seed bed*.		
October	STEP 4 *	Seed <i>Phacelia tar</i>	nacetifolia*.		
October–February	STEP 5	Irrigate occasiona	ılly in absence of rainfall.		
		MARCH	Irrigate if necessary*; <u>and</u> High mow [†] if significant weed germination in project area.		
		APRIL	Irrigate if necessary; and High mow if significant weed germination in project area.		
Marsh Arranet	S 6	MAY	Irrigate if necessary; <u>and</u> High mow if significant weed germination in project area.		
March—August	STEP 6	JUNE	Irrigate if necessary; <u>and</u> High mow if significant weed germination in project area.		
		JULY	Irrigate if necessary; <u>and</u> High mow if significant weed germination in project area.		
		AUGUST	Irrigate if necessary; and High mow if significant weed germination in project area.		
		A. For sites with:	Low weed pressure →	G0 то Step 8	
October	STEP 7		High to moderate weed pressure →	Go то Sтер 7в	
		B. Mow vegetat	ion, <u>and</u> return to STEP 3 in early spring.		
November	STEP 8	A. Flail/low mov	v vegetation; <u>and</u>		
Novellibel	JIEP O	B. Seed recomm	nended pollinator mix.		

- \triangle As early in the season as possible.
- * Complete this step immediately after previous step.
- Even in absence of rainfall during spring–summer, do not irrigate more than twice a month from March to August.
- * Be careful to avoid damaging the growing tips of the phacelia.
- ‡ A second year of site preparation may be necessary on sites with high weed pressure.
- Timeline & checklist originally published in the Xerces Society guidelines, Organic Site Preparation for Wildflower Establishment.
- Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-guides





Organic Herbicide Applications

STEP 1—Site	Recor	d (save a copy of t	HIS TIMELINE & CHECKLIST FOR YOUR RECORDS)	
SITE NAME:			START DATE:	
WEED PRESSUR	RE BEFOR	E TREATMENT:	PRIMARY WEED SPECIES TARGETED:	
High	Moderate	e Low		
STEP 2—Or	ganic l	Herbicide App	olications Timeline & Checklist	
		tuations where weeds e effective against con	are at seedling stage, organic herbicides are already b nmon weeds on-site.	peing used on the farm
RECOMMENDED T	IMELINE		ACTIVITY	DATE COMPLETED
Winter/early spring	Ѕтер 1	Begin herbicide app	lications.	
Spring (~mid-May)	Sтер 2	Repeat herbicide ap from going to flo	plications regularly to prevent newly germinated weeds ower.	
June	STEP 3	Repeat herbicide ap	plications, as needed.	
July	STEP 4	Repeat herbicide ap	plications, as needed.	
August	STEP 5	Repeat herbicide ap	plications, as needed.	
Fall	Sтер 6	Lightly cultivate area		
(September)	STEP 7	Immediately seed p	ollinator mix into the prepared area.	
	additional o	copies of this timeline and	Xerces Society guidelines, <i>Organic Site Preparation for Wildflowe</i> d other resources at: www.xerces.org/pollinator-habitat-installat	





Optional Combination Project Plan

STEP 1—Site Record (save a copy of this timeline & checklist for your records)

- 1. Photocopy or print a copy of this form in advance (www.xerces.org/pollinator-habitat-installation-guides);
- 2. Determine which preparation method(s) will have the highest likelihood of success on your site <u>BEFORE</u> beginning the project (see Step 2 below); and

SITE NAME:	:		START DATE:
WEED PRES	SURE BEFORE TR	EATMENT:	PRIMARY WEED SPECIES TARGETED:
High	Moderate	Low	
<u>rep 2</u> —S	Select Site Pr	eparation l	Method(s)
for Wildflov	ver Establishmen target a variety o	t, available at:	which method(s) to use on your site, see <i>Organic Site Preparation Methods</i> www.xerces.org/pollinator-habitat-installation-guides. <i>Note:</i> In order to it's important to combine weed management techniques to affect as many
SOLARI	ZATION:	Cooler region	ns, page 1
		Warmer/sem	ni-arid regions, <i>page 2</i>
SMOTH	ER CROPPING:	Buckwheat–	–East/Midwest, <i>page 3</i>
		Lacy phaceli	a—East/Midwest, <i>page 4</i>
		Lacy phaceli	a—West, page 5
REPEAT	ED SHALLOW CU	LTIVATION, pa	ge 6
SHEET I	MULCHING, page	7	
SOIL IN	VERSION, page 8	}	
	IC HERBICIDE AP		page 9
	MOVAL, page 10	-	
<u>ГЕР 3</u> —Р	Project Notes	: :	
	-		
***************************************	-		





Solarization—Cooler Regions

STEP 1—S	ite Record (sa	AVE A COPY OF	This timeline $\&$ checklist for your records)	
SITE NAME:			START DATE:	
WEED PRESS	SURE BEFORE TRE	ATMENT:	PRIMARY WEED SPECIES TARGETED:	
High	Moderate	Low		

STEP 2—Cooler Regions Solarization Timeline & Checklist

This timeline is ideal for small plantings (e.g., strip plantings or wildflower plots, less than $\frac{1}{2}$ ac) in sunny areas with moderate to high weed pressure in cooler regions (e.g., Upper Midwest, Northeast).

RECOMMENDED T	IMELINE		A	СТІVІТҮ	DATE CO	MPLETED YEAR 2 [†]
Curiu u	STEP 1	Obtain plastic.				-
Spring	STEP 2	Mow or cultivate site.				
Early-mid-spring	STEP 3	Dig trench around	d perimeter, lay p	lastic, bury edges.		
Late spring	STEP 4	Check plastic for h	holes; repair any h	noles with greenhouse repair tape.		
Summer	Sтер 5	EARLY SUMMER MID-SUMMER LATE SUMMER		ck plastic for holes; repair any holes with e repair tape.		
	STEP 6 B. (A. Assess weed of under the place		Low weed pressure → High to moderate weed pressure →	Go to Ster	
		B. Continue sola the following		TEPS 4–5) and return to STEP 7 in the fall of	G 0 васк то	STEP 4
Fall				Unbury all edges and remove plastic, <u>or</u>		
		Remove plastic:		Unbury three edges and flip plastic to adjacent area (repeat STEPS 2–6 on the new area [‡]); then		
	STEP 8	Carefully remove	Carefully remove perennial weeds by hand. DO NOT CULTIVATE.			
Fall/winter*	STEP 9	Seed pollinator m	nix into the prepai	red area.		

- Dormant season
- † A second year of site preparation may be necessary on sites with high weed pressure.
- ‡ Start a new timeline & checklist for the adjacent area.
- $oldsymbol{\square}$ Timeline & checklist originally published in the Xerces Society guidelines, Organic Site Preparation for Wildflower Establishment.
- Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-guides

ADDITION	NAL PRO	JECT N	NOTES:





Repeated Shallow Cultivation

WEED PRESSU	RE BEFOR	E TREATMENT:	PRIMARY WEED SPECIES TARGETED:	
High	Moderate	Low		
TEP 2—Re	epeated	d Shallow Cul	tivation Timeline & Checklist	
This method is available.	ideal for la	arge areas with low	weed pressure (e.g., former cropland) on farms where c	ultivation equipmen
RECOMMENDED	TIMELINE		ACTIVITY	DATE COMPLETED
	STEP 1	As soon as the field	is accessible, mow existing vegetation to the ground.	
Early spring	STEP 2		th a one-time treatment of deep cultivation before nual weeds go to flower.	
Mid-May	Sтер 3		hallow cultivation (disturbing only top 2" of soil) using a v or sweep cultivator.	
June	STEP 4	Repeat shallow cul	tivation, as needed.	
July	STEP 5	Repeat shallow cul	tivation, as needed.	
August	Sтер 6	Repeat shallow cul	tivation, as needed.	
C	STEP 7	Repeat shallow cul	tivation, as needed.	
September	STEP 8	Optional: Plant a r	nurse crop of oats (20 lb/ac) before September 15 th .	
November	STEP 9	Seed recommende	d pollinator mix into oats.	
	d additional d	copies of this timeline a	e Xerces Society guidelines, <i>Organic Site Preparation for Wildflow</i> nd other resources at: <u>www.xerces.org/pollinator-habitat-installat</u>	





Optional Combination Project Plan

STEP 1—**Site Record** (save a copy of this timeline & checklist for your records)

- 1. Photocopy or print a copy of this form in advance (www.xerces.org/pollinator-habitat-installation-guides);
- 2. Determine which preparation method(s) will have the highest likelihood of success on your site <u>BEFORE</u> beginning the project (see Step 2 below); *and*

SITE NAME	:		START DATE:
WEED PRES	SURE BEFORE TR	EATMENT:	PRIMARY WEED SPECIES TARGETED:
High	Moderate	Low	
TEP 2—S	Select Site Pr	eparation N	Method(s)
for Wildflow	ver Establishmen target a variety o	t, available at:	which method(s) to use on your site, see <i>Organic Site Preparation Methods</i> www.xerces.org/pollinator-habitat-installation-guides. <i>Note:</i> In order to it's important to combine weed management techniques to affect as many
SOLARI	ZATION:	Cooler region	s, page 1
		Warmer/sem	i-arid regions, <i>page 2</i>
SMOTH	ER CROPPING:	Buckwheat—	-East/Midwest, <i>page 3</i>
		Lacy phacelia	—East/Midwest, page 4
		Lacy phacelia	—West, page 5
REPEAT	ED SHALLOW CU	LTIVATION, pag	ge 6
SHEET	MULCHING, page	7	
SOIL IN	VERSION, page 8		
ORGAN	IC HERBICIDE AP	PLICATIONS, pa	age 9
SOD RE	MOVAL, page 10		
TED 2 F	Project Notes	•	
<u> </u>	Project Notes	•	

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Sheet Mulching

STEP 1—S	ite Record (sa	AVE A COPY OF	This timeline & checklist for your records)	
SITE NAME:	:		START DATE:	
WEED PRESS	SURE BEFORE TRE	ATMENT:	PRIMARY WEED SPECIES TARGETED:	
High	Moderate	Low		

STEP 2—Sheet Mulching Timeline

This method is ideal for small sites on farms where appropriate mulching materials (e.g., straw and composted animal manure) are readily available. Weed growth is suppressed by creating a barrier of layered carbon- and nitrogen-rich mulch.

RECOMMENDED T	IMELINE	ACTIVITY	DATE COMPLETED
	STEP 1	Mow or flatten existing vegetation.	
Winter–late	STEP 2	Aerate compacted soils.	
spring	STEP 3	Deeply water arid or semi-arid sites.	
	STEP 4	Layer sheet mulch, watering each layer.	
Summer (arid or semi-arid)	STEP 5	Keep your sheet mulch moist throughout the growing season, but neither too dry nor too wet. Irrigate if needed in dry climates.	
		A. For sites established using: Seeding →	Go то Step 7
	STEP 6	Transplants →	Go то Step 6в
Late fall/early winter	SIEPO	B. Plant transplants directly into the sheet mulch in the fall or the following spring. SKIP STEPS 7 & 8.	
····itei	STEP 7	Remove top carbon-based layer of sheet mulch.	
	STEP 8	Seed recommended pollinator mix into nitrogen-based compost layer.	

STEP 3—Sheet Mulching Checklist

ation	LAYER#	DEPTH	MULCHING MATERIALS USED	RECOMMENDED MATERIALS & DEPTH
vegetation י	Layer 6 (тор):	"		1—2" Carbon-based materials (wood bark, chips, sawdust, or shavings)
INOM.	Layer 5:	"		1—3" Nitrogen-based materials (composted animal or plant materials)
placed or	Layer 4†:	"		1—3" Carbon-based materials (crop residues, hay, hulls, leaves, peat moss, or straw)
id pinoi	Layer 3†:	"		1 " Nitrogen-based materials (any from the list)
er I " sr	Layer 2:	"		1/4—1/2" Carbon-based materials (corrugated cardboard, newspaper, or recycled paper)
■ Lay	Layer 1* (воттом):	"		1 " Nitrogen-based materials (meals, grass clippings, green prunings, grounds, pellets, or seaweeds)

- * Layer 1 should be placed on mown vegetation after the soil has been aerated and deeply watered (if necessary).
- Water previous layer.
- Thoroughly water previous layer.
- † Omit Layers 3–4 on sites with low weed pressure.
- m Timeline & checklist originally published in the Xerces Society guidelines, Organic Site Preparation for Wildflower Establishment.
- Download additional copies of this timeline and other resources at: www.xerces.org/pollinator-habitat-installation-guides





Sod Removal

SITE NAME:			START DATE:	
VEED PRESSUR	E BEFOR	E TREATMENT:	PRIMARY WEED SPECIES TARGETED:	
High	Moderate	e Low		
EP 2—So	d Rem	oval Timeline	& Checklist	
od removal is	an excelle	ent method for quick	kly converting very small areas (e.g., patches of	lawn) to native wildfl
lantings.				
COMMENDED T	IMELINE		ACTIVITY	DATE COMPLETE
ate summer/	Sтер 1		4 hours in advance to loosen the soil before cutting t as necessary in advance.)	
early fall	STEP 2	Cut sod strips out of	select area and remove from site.	
Fall (or following spring)	Sтер 3	A. For sites establis	Seeding → hed using:	Go то Step 4
			Transplants →	G 0 то S тер 3 в
		B. Install transplant	ts in the fall (or the following spring). SKIP STEP 4.	
ite fall/winter	STEP 4	Sow seeds into hare	soil during the dormant season.	
otes:		l	Xerces Society guidelines, Organic Site Preparation for Wilc	flower Establishment.
otes: ロ Timeline & Download a	checklist or additional o	riginally published in the copies of this timeline and		
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