



# OMAHA PERMACULTURE



# FIELD MANUAL

OCT-DEC

FALL

JUL-SEP

SUMMER

APR-JUN

SPRING

JAN-MAR

WINTER



**WE FOSTER COMMUNITY THROUGH**

**SUSTAINABLE LAND STEWARDSHIP**



*Permaculture is sustainable land use design guided by ethics of Earth Care and People Care.*

**W**elcome to our first edition of an Omaha, Nebraska-centric Field Manual for your land stewardship goals. This Field Manual applies the main principles of Permaculture to guide your educational experience toward soil enhancement and ecosystem-building goals.

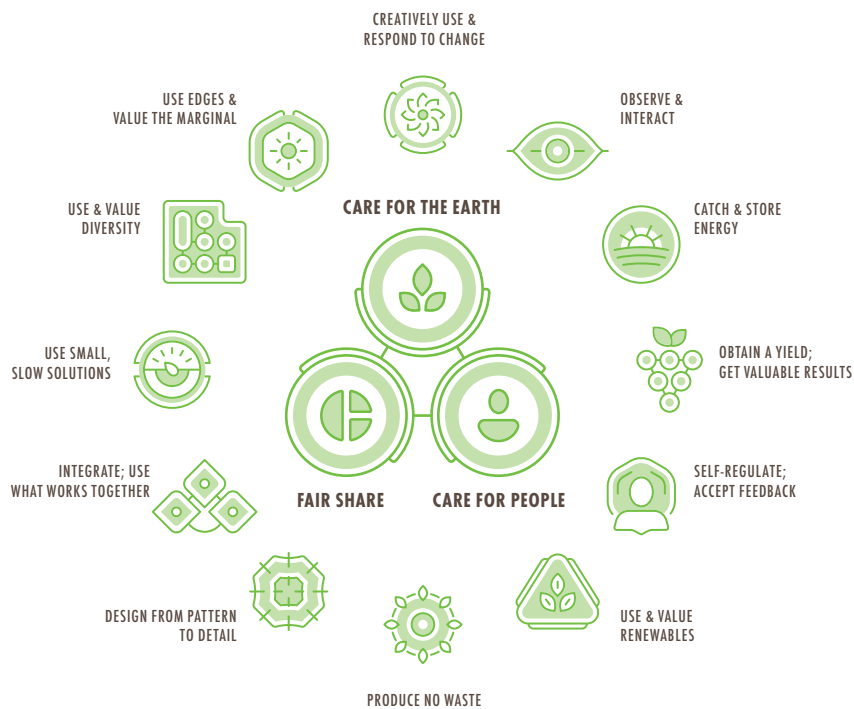
Permaculture was created as a reaction to the destructive ways of agriculture in the 1970s by Bill Mollison and David Holmgren. 'Perma' implies a more permanent, perennial, built-in use of land rather than destroying soil structure twice a year to grow new crops. The current industrial farming system requires heavy soil-nutrition inputs & pest controlling petroleum products to produce a yielding harvest. The environmental consequences of an industrial agricultural system affect the entire world and ruins marine ecosystems. Stepping away from this commoditized approach to land use is the most important step.

The 3 guiding ethics and the 12 principles of permaculture outline a strategy to heal your land from years of conventional degradation (Diagram on page 6).

The first step in permaculture is to **observe your land**. This field manual will help you **observe**; maintain, learn and grow.

In an urban or rural context, this manual will help you learn your outdoor environment while giving you the confidence to sustain yourself in a way that fits your lifestyle. As you follow the month-to-month format, you will begin to absorb the seasonality of your environment and the subsequent windows of opportunity that exist outside your door.

Permaculture principles are taught throughout this manual as you follow the methods outlined each month in sequence with the seasons. Permaculture is a holistic way of thinking; an ideology, that synthesizes all the many endeavors of **your** life



into the same well-designed system. After careful observation of your environment, your lifestyle and your time management, you can then begin to design the living space around you to make **you** more efficient and effective in your life.

A year's observation in journal-like style of your own system will teach you what you need to know as you imagine a future, good land design. A car, a building, or a chair is only as good as the design (materials, form, function, brand, etc). Similarly, land is only useful if it is a functional part of the larger community or larger landscape or larger ecosystem. For this reason, your observation efforts will teach you how to imagine the best use of the land in front of you.

This Field manual is a tool to help inspire your curiosity

about what grows in your landscape. The Field Manual is much too small to name all the plants or trees you can use. We have listed great resources for plant and tree suggestions in our Appendix.

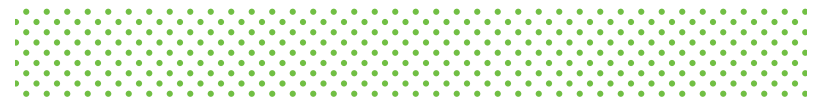
The purpose of this manual is to demonstrate good **maintenance** of the land as a major part of land enhancement. Assuming you are not an experienced land designer; by following a month-to-month explanation of seasonal activities, confidence in the maintenance of your land will lead to 'eureka moments' of enhanced land-design ideas. Over years, you will be a designer that understands every aspect of your land from the ecosystem perspective **and** from a producer perspective.

We hope you enjoy this Field Manual.

# JANUARY

January in Nebraska is a time of reflection for Farmers and Permaculturalists alike. Often temperatures are reaching freezing or below at night and most plants have all but halted growing. Now is the time to make lists, set short and long-term goals, design and revisit systems, make a crop plan and layout the year on a calendar. Take advantage of warmer days to construct greenhouses or hoops, and to take walks to note and identify what may present itself in the stripped down time of the year.

♥ **For local market:** Berries, greens, flowers for upcoming Valentine's Day, cellar-stored produce



<input type="checkbox"/>	Return to mentality and approach. Start thinking about the upcoming year-desires, goals, wishes, designs, new plant varieties and seeds (Jan 20ish-seed shares etc), management, programming, activities, layout calendar, desired equipment, place orders, touch base with plant donors
<input type="checkbox"/>	Visit properties (snowfall and melt, lack of, and clear weather days), will let you know what to do in april being informed with water movement and dry areas + <i>Note microclimates/microniches: where is soil warming fastest, where does snow melt, where do certain plants proliferate, high biological activity</i>
<input type="checkbox"/>	Make use of 60 degree+ days (compost trenches, build structures, rain barrels, etc)
<input type="checkbox"/>	Prep for Springtime 'annual plantings' coldframe or greenhouse, order seeds and clean seeds beds/flats
<input type="checkbox"/>	Fruit tree pruning
<input type="checkbox"/>	Begin rooting stalks of storebought lemongrass for spring planting
<input type="checkbox"/>	On frozen ground: + <i>Major grading or earthworks</i> + <i>Fell timber for processing</i> + <i>Use excess limbs in creating contour water dams for spring thaw and rains.</i>
<input type="checkbox"/>	Greenhouse and different coldframes themes
<input type="checkbox"/>	Compost in January context, turn large piles in warmer-themed coldframes
<input type="checkbox"/>	Broadcast native prairie seed on snow-covered ground

\* *Start thinking about the upcoming year-desires, goals, wishes, designs, new plant varieties & seeds*

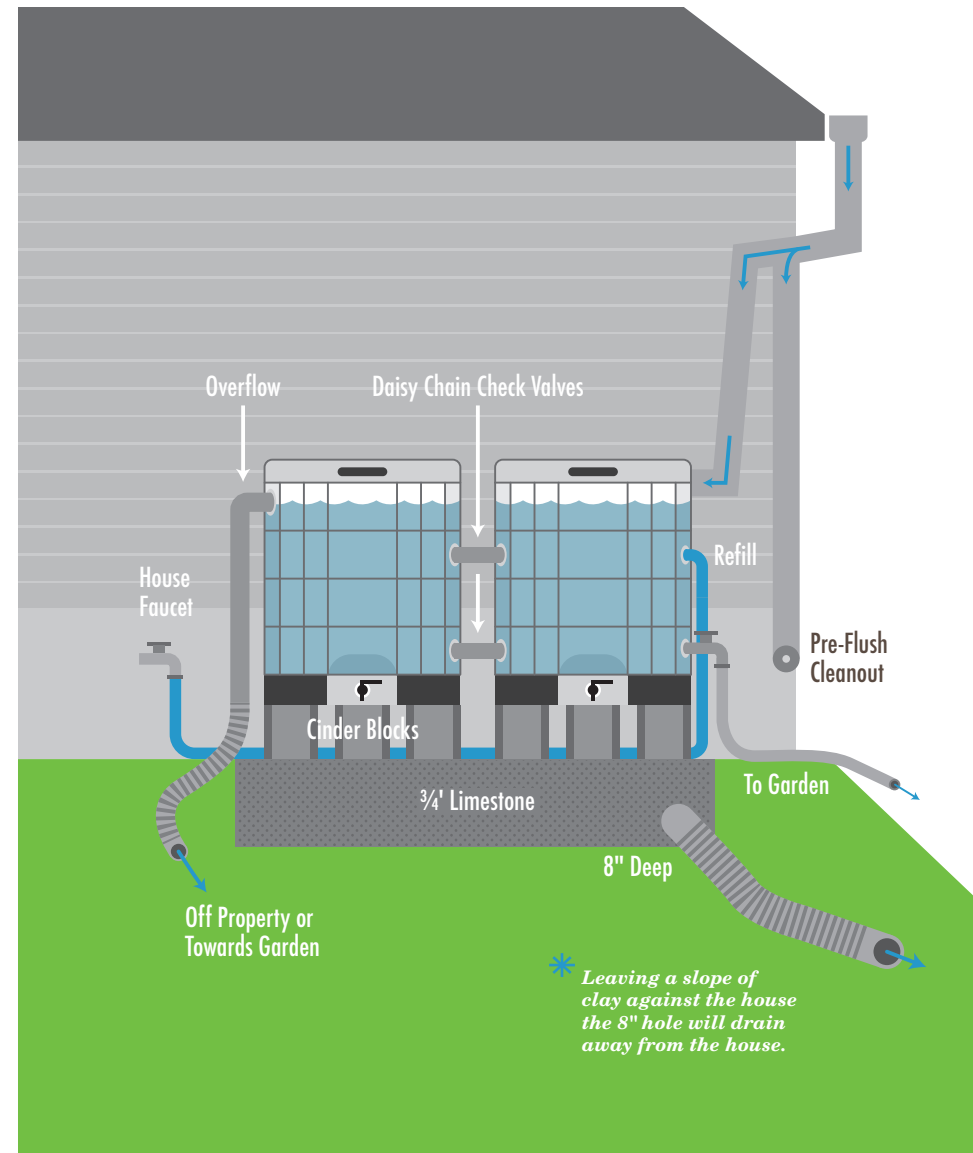


# FEBRUARY

If the ground has thawed, your earliest seeds can be sown for a spring harvest. Otherwise, February is really a continuation of January's activities. Take time to make decisions and finalize plans. Communicate any purchases or trades with fellow farmers as to accumulate seed and plant stock. Take advantage of warming weather to prepare soil mixes and build/dig compost piles/pits and prune trees. Start clearing any garden areas for annual crop production.

- Continuation of January activities. Finalize plans and designs, calendars. **Take advantage of nice days!**
- Early Feb: seed early season brassicas, greens, peppers, herbs
- Late Feb: seed marigolds, zinnias
- Beginning of February you can start feeling out if you have a "longer" or "shorter" winter
- Gather seed stock see earlier, maybe January?
- Prepare soil mixes and seed flats
- Clear fallen limbs and debris
- Greenhouse prep and production
- Compost February context

## How to Build a Rain Barrel



# MARCH

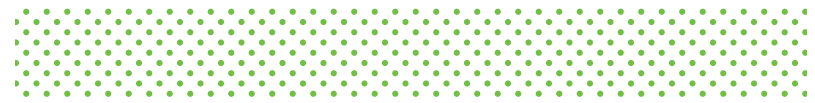
\* *Spring Equinox typically around March 20*

If the ground has thawed, March is a month for sowing your early seeds (cover crop and cool-crop of the year for a Spring harvest. March is the time that you will get to work the soil. Around the 20th is spring equinox symbolically marking the beginning of spring. At this time daylight hours start growing as we start having earlier sunrises and later sun sets. It also symbolically marks the good time to plant root crops like radish and parsnip, leafy greens and brassicas. Broadcasting cover crop seed (Rye, Hairy Vetch, Tillage Radish, Barley, Clovers, tritikale etc) would be appropriate. Broadcasting at this time will allow the ebb and flow of the weather to expand and contract the soil pushing the seed into the soil. As soon as soil temperatures rise and adequate moisture is available, the cover crop will germinate giving you living plants and soil cover as early in the season as possible. Continue planting successions in greenhouse and deadheading previous years growth on lots. Gather trimmed limbs and carbacious plant skeleton materials for composting, mulching, landscaping and other applications. Complete all garden clearing and maintenance. Dig compost trenches as soon as soil is thawed.



## Seed in Greenhouse and Garden Bed:

Cabbage, Cauliflower, Egg Plant, Leek, Lettuces, Onion, Tomatos, Brussels, Kale, Parsnip, Chard, Radish



<input type="checkbox"/>	Walking new lots, site assessments, design and planning (Continue amending and roughly finalizing plans and designs)
<input type="checkbox"/>	Milling any fallen timber to ready for the summer solar kiln
<input type="checkbox"/>	Cover crop broadcasting
<input type="checkbox"/>	Implementing designs, building gardens, digging mounds and walkways
<input type="checkbox"/>	Implement later stages of designs (fruit, trees etc)
<input type="checkbox"/>	Prepping annual spaces for veggies...Broadfork, occulation, compost applications and other "bed prep"
<input type="checkbox"/>	Harvest Jerusalem Artichokes for food, organize dried stalks for mulch
<input type="checkbox"/>	Raspberries: dig up and move raspberries canes
<input type="checkbox"/>	Start a dedicated, all-year-rotating(reseeding), patch of cilantro/ coriander in even-light-shade
<input type="checkbox"/>	Take live-cuttings of woody flora to immediately place in soil
<input type="checkbox"/>	Get out anything more aesthetic/curb appeal (canna bulbs, surprise lilies)
<input type="checkbox"/>	Compost March context, continue the moderate application of finished compost high on contour before the spring rains

## Plants Present:

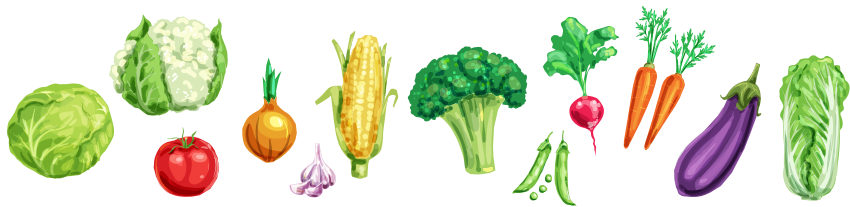
Dock **PEFC**, Chickweed **PE**, Comfrey **PEFC**, Dandelion **PEFC**, Garlic Mustard **PEF-Insect Repel-C**, Gill Over the Ground **PEFC**, Jerusalem Artichoke **P-Manage Spreading-EF-Insect Repel**, Lemon Balm **EF**, Mallow **ManageEFC**, Purple Dead Nettle **EFC**, Red Clover **ManageEFC**, Sorrel **PEFC**

**P**=PULL **E**=EDIBLE **F**=FERMENT **C**=COMPOST



# APRIL

April is a month of harvesting winter/spring crops, sowing spring/summer crops, mowing, pulling weeds, transplanting, splitting and trimming April is most likely when you will see the last frost if not already in March. We will start hosting volunteer groups and doing projects and full-time maintenance. All of these activities are compatible as group activities if individuals are capable. Brassicas and many leafy greens and salads can be transplanted at this time. Seed harder root crops like radishes, parsnips and beets and mulch appropriately. At this time you will start seeing early "weeds". You can start cultivating and managing these appropriately. Many are edible and can be eaten raw, cooked, or dried for a tea. Many can also be made into green manures when mixed with water and soil-See Green Manures Appendix. Plant foods and teas can be applied once or twice a week with watering cans or sprayers. ALWAYS DILUTE PROPERLY.



## Seed in Greenhouse and Garden Bed:

Cabbage, Cauliflower, Eggplant, Leek, Lettuces, Onion, Tomatoes, Beans, Brussels, Kale, Parsnip, Chard, Radish, Broccoli, Okra, Peppers, Peas, Carrots, Corn, Garlic

<input type="checkbox"/>	Prepping annual spaces
<input type="checkbox"/>	Property contracts: Watch soil & plants that are coming on to prescribe new plants and landscaping
<input type="checkbox"/>	Morels, dandelions, nettles, mustards, dock, rhubarb
<input type="checkbox"/>	Look for asparagus sprouting for harvest
<input type="checkbox"/>	Take cuttings of woody flora to immediately place in soil or for
<input type="checkbox"/>	Cover crop broadcasting
<input type="checkbox"/>	Loading Solar kiln
<input type="checkbox"/>	Begin spring plantings (Brassicas, leafy greens, alliums, hardy herbs and bushes)
<input type="checkbox"/>	Note moisture laden areas via plant growth rates and varieties present (apercacae varities)
<input type="checkbox"/>	Transplant lilacs after flowering
<input type="checkbox"/>	Prepping logs for mushroom inoculation
<input type="checkbox"/>	Seed potatoes
<input type="checkbox"/>	Compost April context, dressing compost over garden beds and potted plants
<input type="checkbox"/>	Canning and pickling produce

## Plants Present:

Dock **PEFC**, Chickweed **PE**, Comfrey **PEFC**, Dandelion **PEFC**, Garlic Mustard **PEF-Insect Repel-C**, Gill Over the Ground **PEFC**, Jerusalem Artichoke **P-Management**, Spreading-EF-Insect Repel, Lemon Balm **EF**, Mallow **ManagementEFC**, Purple Dead Nettle **EFC**, Red Clover **ManagementEFC**, Sorrel **PEFC**, Anise Hyssop **EFC**, Mint **ManagementEF-Pest Repel**, Bindweed **PFC**, Ragweed **PFC**, Morning Glory **PF**, Pennycress **PFC**, Poison Parsnip **C**

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# MAY


May is a month of harvesting spring crops, sowing summer crops, transplanting, splitting, mowing, trimming. Pull up the low vents on coldframes and begin some high exhausting. May is when you will start hitting full stride. Volunteer groups will be coming on a regular schedule and planting/maintaining will be in full swing. May is also the time that early pests will start showing up. In addition to the common mosquito, you will start seeing gnats and flea beetles in the fields. Flea beetles are small and black, about the size of the tip of a ballpoint pen, and they will eat small holes in leaves. Diligently communicate with a mowing person, address weeding needs and routinely hoe around plants to keep weeds back until plants are large enough to mulch around. Late May many "Weeds" will start flowering and going to seed. If there are areas that you have been letting plants grow beneficially or if you have been neglecting some areas, now is the time to scythe and weed broadly to cut down on allowing "weed" seeds scatter.



## Seed in Greenhouse and Garden Bed:

Cabbage, Cauliflower, Eggplant, Leek, Lettuces, Onion, Tomatoes, Beans, Brussels, Kale, Parsnip, Chard, Radish, Broccoli, Okra, Peppers, Peas, Carrots, Corn, Garlic



<input type="checkbox"/>	Finishing spring planting and planting summer crops (corn, beans, tomatoes, squash, herbs)
<input type="checkbox"/>	Pests: Pill bug infestations, flea beetle, ready your Japanese Beetle traps 
<input type="checkbox"/>	Plants/weeds to remove or manage effectively: dock, dandelion, morning glory, wild mustard varieties, crab grass, shepherd's purse, pepper grass, spring beauty
<input type="checkbox"/>	Look for asparagus sprouting for harvest
<input type="checkbox"/>	For low-mow paths and curb-appeals, seed walkways to Dutch white clover, rake in.
<input type="checkbox"/>	Seed flowers (marigolds, zinnia, clovers) and mixes
<input type="checkbox"/>	Dig compost trenches
<input type="checkbox"/>	Transplant veggie starts
<input type="checkbox"/>	Canning and pickling produce
<input type="checkbox"/>	Spread mulch
<input type="checkbox"/>	Water

## Plants Present:

Dock **PEFC**, Chickweed **PE**, Comfrey **PEFC**, Dandelion **PEFC**, Garlic Mustard **PEF-Insect Repel-C**, Gill Over the Ground **PEFC**, Jerusalem Artichoke **P-Management**, Spreading-EF-Insect Repel, Lemon Balm **EF**, Mallow **ManagementEFC**, Purple Dead Nettle **EFC**, Red Clover **ManagementEFC**, Sorrel **PEFC**, Anise Hyssop **EFC**, Mint **ManagementEF-Pest Repel**, Bindweed **PFC**, Ragweed **PFC**, Morning Glory **PF**, Pennycress **PFC**, Poison Parsnip **C**

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# JUNE

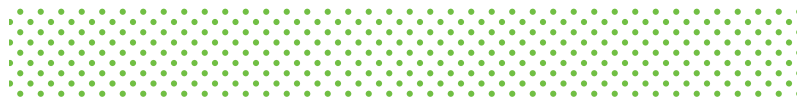
June is a month of harvesting spring crops, seeding summer/fall crops, planting fall flowers, transplanting, splitting, pulling weeds, trimming. In June you will hit a little plateau where after running like crazy to plant and get everything done you will have done it and have a moment to breath and gather yourself. Around June 20-21 marks summer solstice. Traditionally this marks the astronomical start of summer as the sun reaches its northernmost point in the sky and will begin appearing to reverse it's travel path in the sky. All of your first successions and plantings are in and gardens are pretty much full. Some early successions of salad greens and radishes may be done and ready for harvest and clearing. These beds can be cleared of debris and prepared to be planted with the next crop. You may start replacing failed transplants or seeds and continue planting anything you desire in the greenhouses for succession planting in the future. Seasonal summer interns will be showing up and will need a little help acclimating and getting oriented to the Omaha Permaculture approach. Integrate the new interns with volunteer groups, garden maintenance, green manures and watering.



## Seed in Greenhouse and Garden Bed:

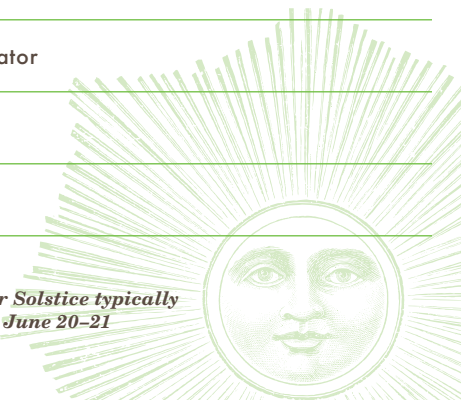
Cabbage, Cauliflower, Eggplant, Leek, Lettuces, Onion, Tomatoes, Beans, Brussels, Kale, Parsnip, Chard, Radish, Broccoli, Okra, Peppers, Peas, Carrots, Corn, Garlic

Direct sow squash, watermelons, cantaloupes, summer beans



<input type="checkbox"/>	Seasonal summer interns begin
<input type="checkbox"/>	Wet-year/dry-year management techniques need to be implemented
<input type="checkbox"/>	Finishing summer plantings and begin seeding fall crops (pumpkins, gourds, late season grasses and ornamentals)
<input type="checkbox"/>	Heavy weeding (usual suspects)
<input type="checkbox"/>	Nanking cherries harvest
<input type="checkbox"/>	Canning and pickling produce
<input type="checkbox"/>	Begin use of solar dehydrator
<input type="checkbox"/>	Mulberry harvest
<input type="checkbox"/>	Raspberry harvest

\* Summer Solstice typically around June 20-21



## Plants Present:

Dock **PEFC**, Chickweed **PE**, Comfrey **PEFC**, Dandelion **PEFC**, Garlic Mustard **PEF-Insect Repel-C**, Gill Over the Ground **PEFC**, Jerusalem Artichoke **P-Manage Spreading-EF-Insect Repel**, Lemon Balm **EF**, Mallow **ManageEFC**, Purple Dead Nettle **EFC**, Red Clover **ManageEFC**, Sorrel **PEFC**, Anise Hyssop **EFC**, Mint **ManageEF-Pest Repel**, Bindweed **PFC**, Ragweed **PFC**, Morning Glory **PF**, Pennycress **PFC**, Poison Parsnip **C**

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Rough split between early season and late season flora; early season plants are finishing up, while late season plants are coming into dominance. This is when things begin to get tall.



July is a month of harvesting first summer crops, seeding fall crops, planting flowers, transplanting, splitting, pulling weeds, pruning, trimming. If not in June, July will start bringing the intense heat as nature starts performing true summer-style. Finish the remaining succession plantings and enjoy watching the gardens manifest. Corn will be knee high or taller by this time. Tomatoes, squashes, beans, onions and all other crops will be growing vigorously. Some years July is when heavy rains will start receding and water can quickly become top priority (some years you will have a wet summer and our raised beds and other engineering will suffice). Heat during group hours will become a big deal. Be sure to keep water around and be flexible with time. Some groups may be best in early morning or later in the evening. July is also the time that pests start showing up in larger populations. Stay consistent with plant foods and compost teas, and make pest repellent sprays from onion, garlic, mint and peppers to start spraying once or twice a week.

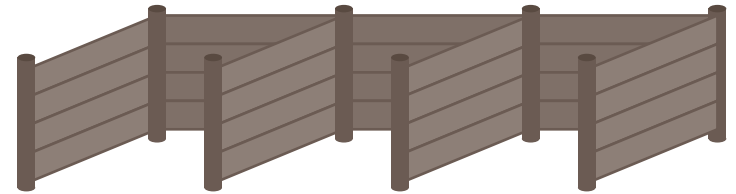
<input type="checkbox"/>	Continue harvesting greens and radishes
<input type="checkbox"/>	Crops maturing
<input type="checkbox"/>	Pests: Keep an eye out for squash bugs, cucumber beetles, Japanese Beetle
<input type="checkbox"/>	Water sources
<input type="checkbox"/>	Harvest leafy greens, radishes, early tomatoes, herbs
<input type="checkbox"/>	Canning and pickling produce
<input type="checkbox"/>	Continue volunteer groups
<input type="checkbox"/>	Late July: begin Bio Blitz



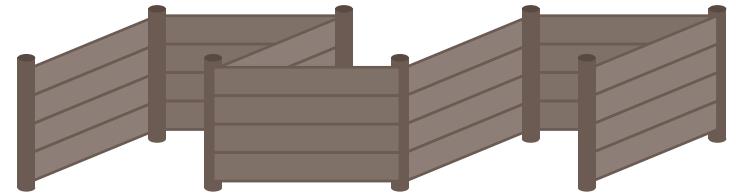
## How to Compost

### HOW TO CONSTRUCT A THREE-CHAMBERED COMPOST BIN

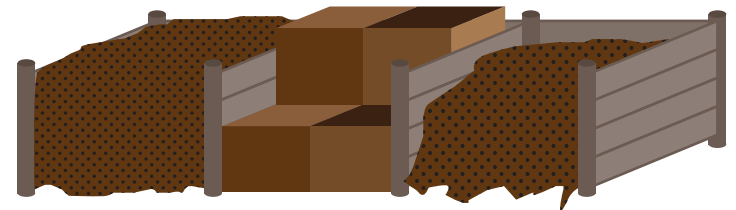
Set posts in the ground. Use naturally rot-resistant wood such as cedar or black locust. Do not use lumber soaked with toxic chemicals ("pressure treated"). Position posts approximately five feet apart and leave about four feet sticking out of the ground.



Box the sides in with old, unpainted boards, using either of the designs shown here.



The center big is used for storing cover materials. The outer bins are used for compost.

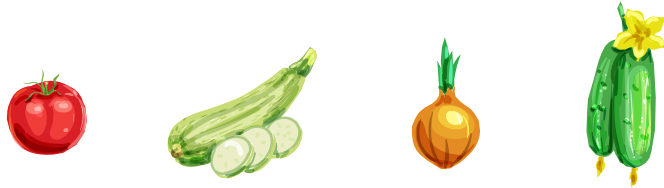


### HOW TO DIG A COMPOST TRENCH



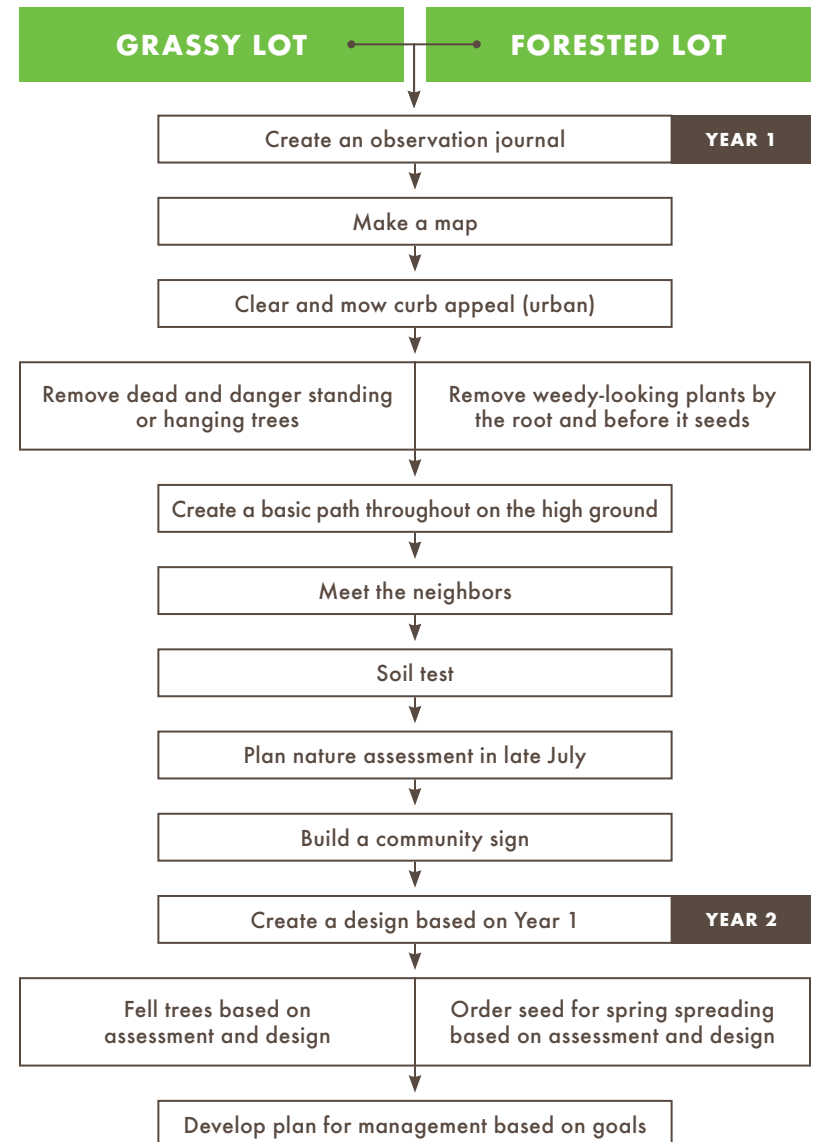
# AUGUST

August is a month of harvesting, pulling weeds, transplanting, splitting, trimming, planting fall crops and the time to begin planning for winter. In August the heat and pests will continue. Harvests will start becoming more regular. Some long-term annual crops will be harvested and this is the time to create and begin implementing a later-season cover crop. Some beds will appropriately be seeded to cover crops while others can continue to be used for short green crops like arugula and salad greens. Many plants are expressing flowers for the first time. August is the month to plan for winter with assessing priorities and collecting supplies. Assess the labor tasks as the seasonal interns are usually done for the season.



- Harvesting veggies and row crops (things like tomatoes, early-planted beans, early-transplanted squashes, cucumbers, onions)
- Canning and pickling produce
- Elderberries should be beginning to rippen
- Late August: Cover crops (winter wheat, rye etc)  
+ *Re-seeding anything needed*
- BioBlitz: the best expression of insects in the year

## Sequence for Managing a Grassy Lot and a Forested Lot, Year to Year.



# SEPTEMBER

September is a transition month. We begin planting cover crop seeds outside, begin staging winter coldframes and begin collecting seed from plants that have cycled out.

<input type="checkbox"/>	Continue harvesting summer crops
<input type="checkbox"/>	Look for apples later in the month
<input type="checkbox"/>	Harvesting of autumn crops may begin late in the month
<input type="checkbox"/>	Canning and pickling produce
<input type="checkbox"/>	Early September: Cover crops (winter wheat, rye, etc)
<input type="checkbox"/>	1 coldframe with berries canes, figs, rosemary, banana, quince
<input type="checkbox"/>	1 coldframe with drying lumber or cedar roundwood timbers
<input type="checkbox"/>	1 coldframe with greens (spinach, lettuce, kale, collards, brassicas) <b>Seeding</b>
<input type="checkbox"/>	1 coldframe for seeding spring annuals
<input type="checkbox"/>	1 coldframe for propagating perennials
<input type="checkbox"/>	Re-seeding anything needed
<input type="checkbox"/>	Seed for greenhouse planting

\* *Fall Equinox typically around  
September 22–23*

# OCTOBER

October is a month for establishing the coldframes for winter, plant trees, plant bulbs, harvesting the last of summer crops and hosting years end food harvest events.

<input type="checkbox"/>	Last chance to plant cover crops
<input type="checkbox"/>	Begin milling the year's timber for winter storage and drying (garage)
<input type="checkbox"/>	Canning and pickling produce
<input type="checkbox"/>	Take cuttings of woody flora for a warm winter greenhouse
<input type="checkbox"/>	Take cuttings of drying prairie plants/trees for decorative wreaths
<input type="checkbox"/>	Sourcing and collecting greens and browns for composting
<input type="checkbox"/>	Seed spring Jerusalem Artichoke, winter garlic, all flower bulbs for curb appeals (daffodils, tulips, alliums, crocuses)
<input type="checkbox"/>	1 coldframe with berries canes, figs, rosemary, banana
<input type="checkbox"/>	1 coldframe with drying lumber or cedar roundwood timbers
<input type="checkbox"/>	1 coldframe with greens (spinach, lettuce, kale, collards, brassicas) <b>Seeding</b>
<input type="checkbox"/>	1 coldframe for seeding spring annuals
<input type="checkbox"/>	1 coldframe for propagating perennials



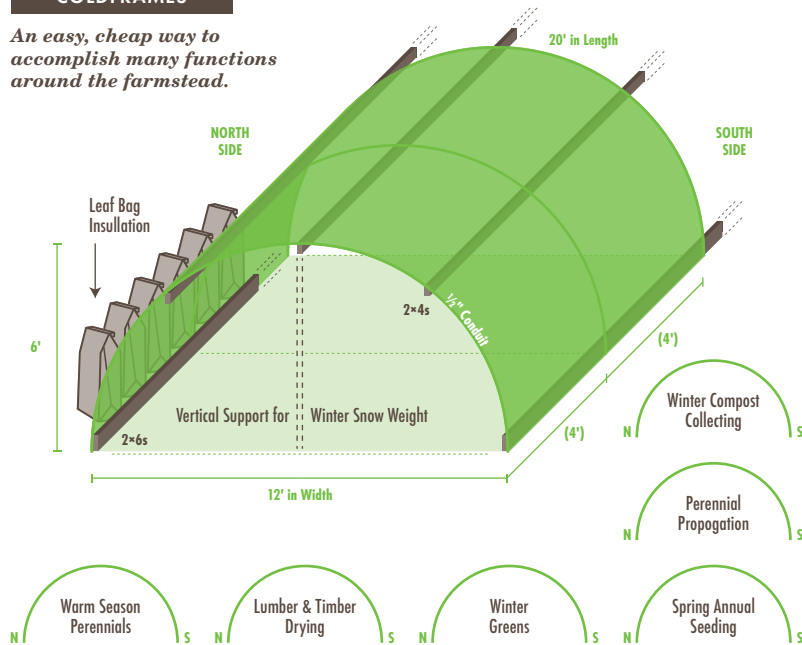
# NOVEMBER

November is a month for cold crop harvests, winterizing garden beds, preserving the last of the year's harvest. If there is a month of rest and enjoying the fruits of your labor in Nebraska, it would be November. Relax and allow yourself time to reflect on the year.

- Sourcing and collecting greens and browns for composting
- Coldframe planting: Do not water more than necessary
- Warm greenhouse: Keep soils moist

## COLDFRAMES

*An easy, cheap way to accomplish many functions around the farmstead.*



# DECEMBER

The month with the shortest day of the year is a time when you begin to use the conclusions of years' end reflections. December is a time to begin designing your property based on the observations from the previous year. There is work to be done in coldframes but it is mostly harvesting at this point.

- Coldframe planting: Do not water more than necessary
- Warm greenhouse: Keep soils moist
- Garden, farm, land designwork
- Improve networking with local organizations to help market your produce
- Working on vehicles, tractors, signs, fixing/building tools
- Broadcast native prairie seed on snow-covered ground

## TIMBER LIST

### CUT DOWN

Some Honeysuckle  
Tree of Heaven

### SAVE/NURTURE

Black Locust  
Hackberry  
Oaks  
Maples

### COPPICE

Mulberry

\* Winter Solstice typically around December 21-22



## Early Season Pests

**MARCH, APRIL, MAY**

Slugs, cutworms, grubs, maggots and flea beetles are among the pests that can plague the early garden.



### USES TO DETER PESTS

<b>Slugs</b> <i>text to deter</i>	<b>Leaf Hopper</b> <i>geranium</i>
<b>Ants</b> <i>mint</i>	<b>Squash/ Stink Bug</b> <i>radish &amp; marigold</i>
<b>Aphids</b> <i>mint, garlic, chives</i>	<b>Thrip</b> <i>marigold &amp; nasturtium</i>
<b>Cabbage Worm</b> <i>mint, sage, rosemary</i>	<b>Whitefly</b> <i>marigold &amp; nasturtium</i>

## How to Farm a South Facing Hill

COMPOST, SOFT TREE FOREST, WINDMILLS
PONDS, VINEYARD, SOLAR PANELS
FOOD FOREST WITH INTERCROPS, MATERIAL STORAGE, MAIN ROAD
HOME SITE, GREENHOUSE, ANIMAL PADDOCK, EARTHEN ANIMAL SHELTER
HARDWOOD TREES, PONDS, ANNUAL
WETLANDS, COTTONWOODS, ELDERBERRIES

← Swales, Paths, or Terraces →

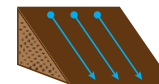
## When These Plants are Present

**P=PULL E=EDIBLE F=FERMENT C=COMPOST**

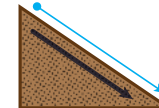
Dock <b>PEFC</b>	Red Clover <b>ManageEFC</b>
Chickweed <b>PE</b>	Sorrel <b>PEFC</b>
Comfrey <b>PEFC</b>	Anise Hyssop <b>EFC</b>
Deandelion <b>PEFC</b>	Mint <b>ManageEF-Pest Repel</b>
Garlic Mustard <b>PEF-Insect Repel-C</b>	Bindweed <b>PFC</b>
Gill Over the Ground <b>PEFC</b>	Ragweed <b>PFC</b>
Jerusalem Artichoke <b>P-Manage Spreading-EF-Insect Repel</b>	Morning Glory <b>PF</b>
Lemon Balm <b>EF</b>	Pennycress <b>PFC</b>
Mallow <b>ManageEFC</b>	Poison Parsnip <b>C</b>
Purple Dead Nettle <b>EFC</b>	

## Water Collection & Manipulation

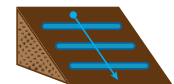
Water flows across surface, most runs off slope.



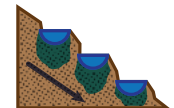
Water has short contact time with soil, very little is absorbed.



Water flows into trenches, almost no run-off.



Water sits in trenches and slowly soaks deep into the soil.



## Planting Dates (Ideal)

Broadcasting Prairie Seed	November–February
Broadcasting Spring Cover Crops	Ground Thaw(March)–May
Broadcasting Winter Cover Crops	Ground Thaw(March)–May
Sowing Earliest Spring Cold Crops	Late February–Early April (As soon ground thaws)
Sowing Earliest Seeds in Greenhouse	Early February
Sowing Most Annual Seeds in Greenhouse	March–April
Sowing Perennials in Greenhouse	April–August
Rooting Cuttings	January–July
Planting Bulbs	October
Splitting Large Plants	April–July
Inoculating Logs with Mushrooms	May–June
Begin Your Bee Hive	April–June
Winterize Your Bee Hive	October
Grafting	April/May
Pruning	December–January

## Forage Dates

Morel Mushrooms	April–May
Most Edible Mushrooms	August–September
Nettles	May
Chicory	July–September
Purslane	July–September
Most Forage Plants	May–September
Asparagus	April–August
Jerusalem Artichoke	All Year

## Freeze Dates

Media Date of 32°F Freeze, Based on 1981–2010 Average

### OMAHA SPRING

Last Freeze: **April 21–30**

### OMAHA FALL

First Freeze: **October 1–10**

## Green Manure/Ferment Plant Food

CATEGORY	PRODUCTS	TARGET PEST	MAJOR CROP
Bacteria	Bacillus thuringiensis Bacillus sphaericus Bacillus subtilis Pseudomonas fluorescens	Lepidoptera Mosquitoes, Flies Fungal pathogens Fungal pathogens	Maize, vegetables, soybean, groundnut, wheat, peas, oilseeds, rice
Fungi	Trichoderma viride Trichoderma harzianum Trichoderma hamatum Beauveria bassiana Verticillium lecanii Metarhizium anisopliae Paecilomyces lilacinus Nomuraea rileyi	Fungal pathogens Insect pests such as bollworms, white flies, root grubs, tea mosquito bugs	Wheat, rice, pulses, vegetables, and spices Pulses, oilseeds, spices and vegetables
Viruses	Nuclear polyhedrosis Virus (NPV) of Helicoverpa armigera, Spodoptera sp. and Chilo infescatellus	American Bollworm, tobacco caterpillar and shoot borer	Sunflower, vegetables
Bio-rationals	Pheromone traps, Pheromone lures, sticky traps and mating disruptants	Bactocera sp. Chilo sp. Dacus sp. Earias vittella Helicoverpa armigera Leucinodes orbonalis Pectinophora gossypiella Plutella xylostella	Vegetables, fruitcrops

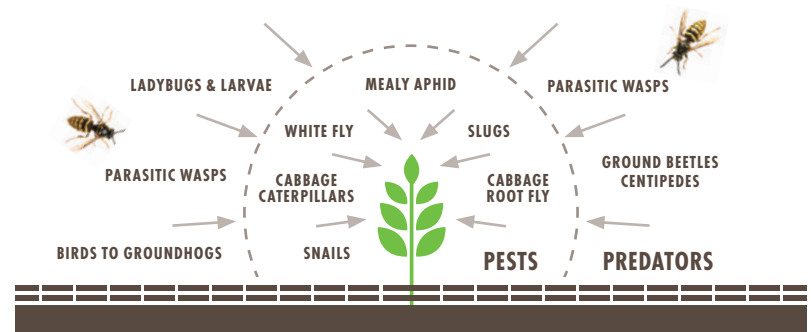
## Statements on Insects

Most insects are beneficial to Polycultures. Most insects are **not** beneficial to Monocultures.

Not just pollinating, the entire life cycle of the insect benefits the soil and the plant all year long.

In ponds with a stable ecosystem, the dragonfly larvae and many other predators will eat mosquito larvae before larvae become a mosquito.

Toxins that alter the pond ecosystem create an imbalance that favors the more persistent mosquito.





**T**hanks to the hard work of a very talented artist, the Omaha Permaculture Field Manual Committee and the financial support of the Claire M. Hubbard Foundation, we are proud to present our first edition of the Omaha Permaculture Field Manual.

We have definitely not covered everything that could be worthy of this manual. We will add more information and content to this format in future years. We have merely exposed the tip of the iceberg. With this book in your hands, you have a great tool to begin exploring your own environment and your own inner-passions.

### **Do you have more confidence?**

Each time you page through this very short Field Manual, you will become more and more acquainted with the rhythm of the seasonal changes. Each time you follow your land dynamics with the seasons, the weather, the insects, flora and fauna, your confidence & instinct for land design enhancements will improve.

### **Do you feel more connected with your environment?**

Many wealthy societies around the world have sacrificed a connection to nature for technological progress & consumerism. We hope this Field Manual begins to connect your modern lifestyle with nature. So often our newer generations are entranced by consumerism and technological progress that we ignore the ever-present role of nature in our lives. Our relationship with nature reflects our morality as a species. We must all yearn for more understanding and harmony between mankind and our environment.

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*“The ultimate goal of farming is not the growing of crops, but rather the cultivation of human beings.”*

—Masanobu Fukuoka

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By fully understanding your ecosystem, your ability to produce healthy-food will grow. Allowing your landscape to express all of its' biodiversity allows you to discover your own methods for enhancing & replenishing soil nutrition. A mowed lawn teaches you nothing about your environment. An untamed parcel of land teaches you much more about your environment and your relationship to the nature around you.

The great Permaculture philosopher Masanobu Fukuoka said “the ultimate goal of farming is not the growing of crops, but the cultivation of human beings.” An enlightened human being understands a harmony that should exist between all living things. The over-success of human beings at the expense of our biosphere is a selfish pursuit that ignores the interconnectedness of all living things through life-cycles or food chains.

Your new land design will express the biodiversity of your natural environment combined seamlessly with food-production systems for people and nature; all while replenishing the soil. Invasives and pests are not something to fear, but an opportunity to learn and innovate. Once you realize that good land design combined with nature's biodiversity can help you grow food, your fears will melt away. With this 'license-to explore' tool in your hand, we wish you the best of luck on your new land stewardship adventure.

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*“Education, if it means anything, should not take people away from the land, but instill in them even more respect for it, because educated people are in a position to understand what is being lost. The future of the planet concerns all of us, and all of us should do what we can to protect it. As I told the foresters, and the women, you don’t need a diploma to plant a tree.”*

—**Wangari Maathai**

Nobel Peace Prize Laureate and author of *Unbowed*

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## References

Nebraska Statewide Arboretum

<https://plantnebraska.org>

Omaha Regional Stormwater Design Manual

<https://omahastormwater.org/orsdm>

Pheasants Forever

<http://pfqfhabitated.blogspot.com>

Soil/Water Testing

<https://midwestlabs.com>

Nebraska Extension

<https://extension.unl.edu>

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Graphic Design: Justin Kemerling Design Co

Funded by the Claire M. Hubbard Foundation

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**Omaha Permaculture is a 501c3 non-profit organization that maintains unwanted vacant land to elevate the property's utility and value for the surrounding neighborhood by creating healthy ecosystems through urban agriculture related economic development.**



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