how to design and use a Working Calendar
• Identify the benefits of using a detailed working calendar to manage farm work.
• Understand the components of a successful working calendar.
• Understand how to create a valuable working calendar.
• Learn how to use the calendar after it is created.
Easy online tools for creating and sharing calendars:

http://www.growingproduce.com/video/pest-control/v-nine-steps-to-creating-a-pest-management-calendar-for-your-farm/

Starting out: See an example.
The products of farming take time to grow and are often affected by seasonal conditions.

The prudent farmer acts like the conductor of a symphony, setting the stage and encouraging the different players at the right time in order to convey a cohesive flow of produce.

Just as the conductor consults a score, the farmer may consult a calendar in order to coordinate work.
A working calendar is a multi-functional tool. A calendar may prove useful in organization, record-keeping, and communication. Its benefit may be as tangible as a wheelbarrow’s mechanical advantage.

Production goals give our calendar purpose. Considering these along with a working knowledge of natural processes, we lay out tasks over time.

<table>
<thead>
<tr>
<th>Production goals</th>
<th>Relevant information</th>
<th>Planned work</th>
<th>Actual work</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harvest 10 lbs. of arugula in May</td>
<td>arugula* typically matures in five weeks given spring weather</td>
<td>Prepare bed and seed arugula April 1, pull weeds mid-April, harvest early May.</td>
<td>Prepare bed and seed arugula on April 1, weed on April 9 and 22, harvest May 3.</td>
<td>11 lbs. of arugula harvested on May 3</td>
</tr>
</tbody>
</table>

*link is to Johnny’s Selected Seeds’ arugula seed, see “Growing Info” under purchase area.*
Imagine we are growing spinach.

We would like to harvest spinach for as much of the year as possible. On what does this depend?

For starters, let’s consider weather conditions, soil properties, the variety of spinach we’re dealing with, and our labor. Pretend we have a plot of ideal soil near Niles, Michigan. We know the local climate and have a packet of spinach seeds with included variety detail (shown on following slide, and identically under “Growing Info” tab [http://www.johnnyseeds.com/p-7449-tyee-f1.aspx](http://www.johnnyseeds.com/p-7449-tyee-f1.aspx)) informing our planting.

Read the following slide and decide: what should be done.
SPINACH - Spinacia oleracea

SEED SPECS: Seeds/Oz.: 1550-3750 (avg. 2200). Seeds/Lb.: 25,000-60,000 (avg. 35,000). Avg. Direct Seeding Rate: For bunching and full size: 220'/oz., 100'/1,000 seeds at 10 seeds/ft. For salad mix: 50'/oz., 25'/1,000 seeds at 40 seeds/ft.

CULTURE: Spinach grows in a wide range of soils if moist and fertile, but is sensitive to acidity. pH should be at least 6.0, preferably 6.5-7.5. Sowing Dates: Spinach germinates best in cool soil. Begin sowing in early spring, as soon as the ground can be worked. Summer sowing in hot soil over 85°F (30°C) risks low or erratic germination! Sow late July into September for a fall crop. Spinach can also be planted from September until freeze-up for an early harvest the following spring; floating row covers offer effective winter protection.

PLANTING AND HARVEST: For bunching and full size: Sow about 9-10 seeds/ft., 1/2" deep in rows 12-18" apart. Harvest spinach early, as mature plants bolt to seed quickly, cutting just below root attachment for "rooted spinach," or cut higher for "clipped spinach." Since harvest season is brief, we advise harvesting entire plants rather than single leaves in the cut-and-come-again fashion. For salad mix: Sow in 2-4" wide bands, 3/4" apart, about 40 seeds/ft. Clip small leaves in 3-5 weeks, depending on time of year and speed of growth.

DISEASES AND PESTS: Prevent disease with crop rotation and good sanitation.

SPIN
Using the information we can harvest spinach for most of the spring, summer and fall if we plant beds in two-week intervals from late April through early October with a break during the hottest part of summer. We will water, spray compost tea, and weed the beds occasionally during growth. We build the following calendar for **April Spinach Planting**:

<table>
<thead>
<tr>
<th>April</th>
<th>M</th>
<th>Tu</th>
<th>W</th>
<th>Th</th>
<th>F</th>
<th>Sa</th>
<th>Su</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>1</td>
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<td>2</td>
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<td></td>
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<tr>
<td></td>
<td>7</td>
<td>8</td>
<td>9 Compost Tea and Weed All Spinach</td>
<td>10</td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>14</td>
<td>15</td>
<td>16 Compost Tea and Weed All Spinach</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>22</td>
<td>23 Compost Tea and Weed All Spinach</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>28</td>
<td></td>
<td>29 Planting #3 Check P#1 for insect pressure</td>
<td>30</td>
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</tr>
</tbody>
</table>
So our **May Spinach Calendar** would look like this:

<table>
<thead>
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<th></th>
<th>M</th>
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<th></th>
<th>Th</th>
<th>F</th>
<th>Sa</th>
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<th>Su</th>
</tr>
</thead>
<tbody>
<tr>
<td>May</td>
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<td></td>
<td></td>
<td>1</td>
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<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td></td>
<td>7 Compost Tea and Weed All Spinach except the planting to be harvested this week</td>
<td>8</td>
<td></td>
<td>9</td>
<td>10 Begin Harvest Planting #1</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td></td>
<td>14 Compost Tea and Weed All Spinach except the planting to be harvested this week</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td></td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td></td>
<td>21 Compost Tea and Weed All Spinach except the planting to be harvested this week</td>
<td>22</td>
<td>23</td>
<td>24 Begin Harvest Planting #2</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td></td>
<td>28 Compost Tea and Weed All Spinach except the planting to be harvested this week</td>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Making a like calendar for each crop family makes it easy to collate monthly work calendars giving farmer and employees an overview of all work, monthly, weekly and daily (slide 16).
• What are your production goals? What factors affect their fulfillment? What labor will be required of you, and when should each task be performed? This is the first step to building a calendar, and might involve quite a bit of thought and research.

Now, imagine your own farm.
Common factors relevant to growing food, with related research sources, include:

- **crop and breed characteristics**
  - Rodale Institute’s organic transition module (click “Crops” on left navigation bar)
  - USDA plants database (hint: to view only edible plants, use the advanced search’s “human palatable” filter at bottom of criteria list)
  - Purdue’s breakout map of U.S. Agriculture Census crops
  - Johnny’s Selected Seeds’ planting calculators
  - Heritage breed animal information

- **soil quality**
  - Johnny’s Selected Seeds’ soil primer (article includes further links)
  - Rodale Institute’s organic transition module (click “Soils” on left navigation bar)
  - USDA/NRCS soil education hub
  - Building Soils for Better Crops (free download)

- **local climate**
  - interactive map of major U.S. climate organizations
  - Midwestern Regional Climate Center
  - Indiana State Climate Office’s hub for normal climate data by region

Do your research.
Consider your work.

Common farming work involves:
- soil testing, amendment, and cultivation
- compost development and application
- plant seeding, transplanting, pruning, and spraying
- plant bed irrigation, weeding, and mulching
- season extension as through greenhouse use
- produce harvest, washing, storage, and transportation
- regulation of production as through staggered plantings
- animal housing, watering, feeding, herding, and treatment
- tool and workspace construction, cleaning, and organization
- workforce cycling and growth
- sourcing supplies
Design your calendar.

• With an idea of the conditions and work it will take to yield your food, you may consider your calendar’s specifications.
• What is a useful timeframe for your calendar? Animals are often fed twice daily, plants take weeks or months to grow, crop rotation occurs over the course of a year or years, and soil-building may take decades. What are you trying to accomplish and how might one or more calendars be scaled to help?
• What form will your calendar take? Shared online documents, month-by-day whiteboards, and penciled list arrangements are some of the possibilities. Tasks may be assigned to workers within the calendar. What is most useful to you and your workforce?
• See http://youtu.be/lik8MRqr7Kk for information on online calendars.
Design your calendar.

- What items will your calendar include? How will these items be categorized and organized?
- In placing tasks, you might work back in time from desired outcomes or forward from landmarks such as the year’s expected final day of freezing weather.
- How far in advance will you fill your calendar? How will you update your calendar? Commonly, farmers do more planning in winter and reacting in summer.
Once you have built a calendar, consult it as often as is necessary to direct your labors. Like any tool, it might need maintenance to remain useful.

When you feel like change is in store, evaluate your calendar’s performance and change it accordingly.

After years your calendar will be a finely tuned tool.
Check out some calendars.
Garden To-Do List
- plant more beans
- cukes
- pick potato flowers
- **Silva**
  - newspaper + mulch basil
  - weed control peppers + tomatoes
  - trellis tomatoes
  - re-plant cukes x 2

Daily Garden Chores
- water greenhouse
- water 3 boxes in Horton
  - kale, etc.
- pm: turn on drip lines
- water & thin pak choi box

Silva
- re-plant cukes x 2

Horton
- plant rows formerly lettuce
- weed + mulch dry beans
- pull up seedling beetle plant
- more basil
- plant leeks in kale boxes empty places
- plant radishes, or beets in middle new kale

Albus
- weed control on herbs
- plant spearmint
- water
- tie asparagus to fence

Other
- compost tea
- coffee grounds on tomato plants
- spot weed everywhere esp. peppers and cucumber rows. Careful not to pull up plants in middle of double tomato row
- weed out outside fences

Anna
- 740-323-6
<table>
<thead>
<tr>
<th>NoFarm Farm 2013</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhouse</td>
<td></td>
<td></td>
<td></td>
<td>start brassicas and tomatoes</td>
<td>shoots</td>
<td>shoots</td>
<td>shoots</td>
<td>shoots</td>
<td>shoots</td>
<td>clean and repair</td>
<td></td>
<td></td>
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<tr>
<td>East Field</td>
<td></td>
<td></td>
<td></td>
<td>transplant brassicas</td>
<td>cultivate</td>
<td>harvest</td>
<td>harvest</td>
<td>clear to carrots</td>
<td>cultivate</td>
<td>cultivate</td>
<td></td>
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<tr>
<td>North Field</td>
<td></td>
<td></td>
<td></td>
<td>mow and till</td>
<td>transplant tomatoes</td>
<td>cultivate</td>
<td>harvest</td>
<td>harvest</td>
<td>clear to buckwheat</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>West Field</td>
<td></td>
<td></td>
<td></td>
<td>mow and till</td>
<td>start corn</td>
<td>cultivate</td>
<td>cultivate</td>
<td>harvest</td>
<td>clear to buckwheat</td>
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<tr>
<td>Boxes</td>
<td></td>
<td></td>
<td></td>
<td>clean and compost</td>
<td>plant greens</td>
<td>plant greens</td>
<td>plant and harvest</td>
<td>harvest</td>
<td>harvest</td>
<td>clean and repair</td>
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<tr>
<td>Pasture</td>
<td></td>
<td></td>
<td></td>
<td>graze birds</td>
<td>cut</td>
<td>graze birds</td>
<td>cut</td>
<td>graze birds</td>
<td>cut</td>
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<tr>
<td>Compost</td>
<td>fill and turn</td>
<td>fill and turn</td>
<td>fill and turn</td>
<td>fill and turn, apply</td>
<td>fill and turn, apply</td>
<td>fill and turn</td>
<td>fill and turn</td>
<td>fill and turn</td>
<td>fill and turn</td>
<td>fill and turn</td>
<td>fill and turn</td>
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<tr>
<td>Tools</td>
<td>clean and sharpen</td>
<td>clean and sharpen</td>
<td>clean and sharpen</td>
<td>clean and sharpen</td>
<td>clean and sharpen</td>
<td>clean and sharpen</td>
<td>clean and sharpen</td>
<td>clean and sharpen</td>
<td>repair</td>
<td></td>
<td></td>
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<tr>
<td>House</td>
<td>misc. work</td>
<td>misc. work</td>
<td>clean and repair</td>
<td></td>
<td>ferment cabbage</td>
<td>dry corn and tomatoes</td>
<td>knit</td>
<td>clean and repair</td>
<td>misc. work</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Check out some calendars.
• Calendars have myriad forms and uses. Consider the spectrum.
• A task-list is a calendar aggregating work items for a given timeframe.
  ◦ Consider a temporary checklist of the day’s goals.
  ◦ Consider a relatively permanent display of work that can always be done. This could prove useful when volunteer labor shows up or as a reminder and inspiration.
• A calendar can serve as a data collection tool. Interesting data (perhaps on temperature, rainfall, germination, harvesting, pests) recorded by date may inform future farming endeavors.
• On a related note, a working calendar that is complete and adhered to is a reliable account of farm activity. This may be useful in all sorts of analysis.

Consider the possibilities.
1. How are seed packets and crop information critical to developing a working calendar?
2. In what ways can calendars be a useful communication tool among farm workers?
3. How can a working calendar help farmers meet their production goals?
• Greenhorns’ free publications library
• National Sustainable Agriculture Information Service (ATTRA)
• USDA / AFSIC on organic production
• Johnny’s Seeds