



GROWING FOR MARKET 2: PLANNING FOR PLANTING

New Roots Micro-Producer Academy: Module 4 of 8

Summary

Understanding the difference between personal and commercial production. Growing techniques (as well as farm rules) to maximize production and timing production based around the markets they hope to sell at. Farmers will draft a planting and harvest calendar for the market crops they have chosen, and they will draw a potential succession planting map for one crop.

The need: Provides a foundation of agricultural practices that set the tone for successful market farming, and teaches the concepts of “weeks to harvest” and “succession planting.”

Who made this guide?

Collaboration and Testing

ACKNOWLEDGMENTS: This teaching resource was developed by Aley Kent and Ellee Igoe of IRC Food and Agriculture Technical Unit, in partnership with the Institute for Social and Economic Development (ISED Solutions). Refugee farmer training programs across the country provided feedback on this lesson, which is now integrated throughout the guide. From 2015 to 2017, ISED partnered with twelve refugee farmer training programs through a USDA BFRDP educational enhancement grant, to support the design and testing of new and shareable teaching resources for culturally and linguistically diverse farmers. To learn more about this project, or to access the whole list of newly developed teaching resources for refugee farmer training programs, see the [New American Resource Library at https://nesfp.org/new-american-resources](https://nesfp.org/new-american-resources). For more in-depth explanations of the teaching approaches and activities used in these materials, please see the [‘Teaching Handbook: Refugee farmer training’](#). While these resources were designed with refugee audiences in mind, they can be adapted and used in any farmer training or incubator setting.

VARIATION:

Throughout this guide, boxes (like this one) contain variations and adaptations that serve varying programs and farmers. They are suggestions and reflections from other programs based on how they made this workshop work for them.

TEACHING TIP:

Throughout this guide, boxes (like this one) contain teaching tips to help you better facilitate farmer learning. Most come from other programs who have tested and reflected on using this lesson.

DEVELOPER’S NOTE:

Throughout this guide, boxes (like this one) contain notes from this guide’s developer that provide insight into how a lesson is typically taught at the developer’s program.

ICONS: You will find the icons below throughout this guidebook. They are there so you are prepared for the activity and can get an idea of what it will bring at a glance.



POWERPOINT



DISCUSSION



WORKSHEET

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Adaptable except where noted.

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- Resources needed

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- PowerPoint to introduce the key words: **Plant (verb: “To plant”), Seed, Transplant, Greenhouse, Weed, Harvest, Schedule**

7 PLANNING FOR PLANTING PRESENTATION AND DISCUSSION ACTIVITY 2 / 30 MINUTES

- Visuals on market farming skills and and crop maps

9 CALENDAR ACTIVITY / ACTIVITY 3 / 40 MINUTES

- Working with seasonal diagrams and calendar pages to think through weeks to harvest concept and do preliminary scheduling for planting

12 SUCCESSION PLANTING / ACTIVITY 4 / 40 MINUTES

- Practice work with a crop map to visualize multiple crops of one item for continuous harvest

WHAT TESTERS SAY:

“All the components are useful, but especially the visual, the calendar, and the ESL portion. The visuals are the most helpful.”

-The International Rescue Committee in Phoenix AZ

“The ‘Planning for Planting’ presentation was useful for helping farmers to understand methods that maximize time and produce quality. Having a few pictures for each method is very useful as farmers can make the visual distinctions necessary.”

-The International Rescue Committee in Tucson, AZ

Audience and Objectives

Adaptable except where noted.

OBJECTIVES: Participants will:

- Conceptualize notion of efficiency to grow more with less space to maximize income at market
- Work with “weeks to harvest” concept and planting calendar
- Learn tips for maximizing yields on small plots (growing in rows, season extension, maximizing space by trellising, continual harvest)
- Work with a crop map to visualize multiple crops of one item for continuous harvest

TIME: 1.5 hours or can split into two 45 minute to 1 hour sessions

STRUCTURE: Group activities, visuals and discussions.

SIZE OF CLASS: Adaptable

INTENDED AUDIENCE: New farmers, English Language Learning farmers

EXPERIENCE: A season of growing food in the local area should be a prerequisite, as well as the previous class on choosing market crops. Helpful if farmers have already been exposed to some season extension techniques.

Resources needed

Adaptable except where noted.

TIME: 1.5 hours

STAFF / INTERPRETERS: One Staff Member and One Interpreter

LOCATION: Classroom / packing shed etc.

Classroom or similar, space for a farm stand set up for Part 2 (can be done outdoors or indoors).

SUPPLIES: For Participants:

- Seed packets
- Cutout pictures of crops identified in Module 3
- Pens/pencils
- Tape or glue sticks
- Cutouts for use in succession planting activity
- Crop map worksheets for succession planting activity

Materials Needed for Trainer:

- This User's Guide
- Module 4 ESL slides or printouts
- Module 4 Planning for Planting PowerPoint or printouts
- Using a Calendar Activity and materials
- Succession Planting Activity and materials
- Indoor or outdoor classroom space

Module 4 ESL

MODULE 4 ESL POWERPOINT



PLANNING FOR PLANTING POWERPOINT

ESL Vocabulary Presentation

1

TIME: 10-20 minutes depending on how much you decide to engage the audience

OVERVIEW:

PowerPoint to introduce the key words: Plant (verb: "To plant"), Seed, Transplant, Greenhouse, Weed, Harvest, Schedule

MATERIALS:

- ESL PowerPoint for Module 4



STEP 1: POWERPOINT PRESENTATION

1. Plant

To place something living in the ground so it will grow.

2. Seed

A flowering plant's way of reproducing.

3. Transplant

Growing, or starting, seeds in a tray and then moving them to the soil.

4. Greenhouse

A protective structure for seeds to grow into transplants.

5. Weed

A plant growing where it is not wanted.

6. Harvest

To cut or pick fruits and vegetables for eating or to sell.

7. Schedule

A plan that shows when things will happen.

Planning for Planting Presentation

2

TIME: 30 minutes

OVERVIEW:

Farmers will discuss 8 steps of plant care (how maintain healthy plants), as well as maximizing space, succession planting, trellising, maximizing growing time, season extension, having something to sell every week.

MATERIALS:

- Visuals on market farming skills and and crop maps



STEP 1: POWERPOINT

In this session we will discuss how to get the most out of your small space. How do you think it might be different than gardening for yourself and your family?

SLIDES 2-3: What differences do you see between these two plots?
(flip back and forth as needed)

SLIDES 4-5: And, between these two plots? (flip back and forth as needed)
As a production your farmer your #1 goal is to grow crops with the intent of selling them. This doesn't mean what you have done in the past is wrong... but your end goal is different.

SLIDE 6: Commercial farmers maximize time

SLIDES 7-11: What have these farmers done to be able to grow more food during the colder (hotter) months?
• Utilize a green house to grow transplants that will be ready to harvest sooner than if you put seeds directly into the ground.
• What is a transplant? (recall from ESL)

OPTION TO COMPLETE ACTIVITY 3: Calendar Activity: Timing Your Harvest for the Market.

*****Can break here if you need to shorten or split in two*****

SLIDE 13: Commercial farmers maximize space

SLIDE 14: **Thinning:** Who thins out their crops? What do I mean by this? Why should farmers do this?

- Plants need space to grow, and will not do well if they are crowded.
- Thinning allows crops to grow faster, grow in a uniform manner, and improves quality.
- Pulling out a crop to make something else healthier is not wasteful... It is necessary to get a commercial quality crop.
- Thinning is necessary for direct seeded crops.

SLIDE 16: **Weed thoroughly and often**

- Use a hoe to weed every inch of the soil.
- Don't just pull weeds you can see.
- Weed at least every two weeks, even if you can't see the weeds.
- Pull out any crop or weed that is going to seed.

SLIDE 18: **Plant crops in straight rows**

- Why? This will make weeding, thinning, trellising and harvesting faster.
- It will be much easier to tell what a crop is and what a weed is.

VARIATION:

Although the material highlights the positive benefits of using rows, we would like to note that other methods (such as those in permaculture) exist and perhaps other methods besides rows could be discussed.

SLIDE 19: **Don't Interplant**

- Interplanting is growing more than one crop per bed (corn and cucumbers).
- It will slow you down on harvest days
- Similarly: Keep crops all in one place

SLIDE 20: What are these farmers doing to maximize the space they have?

- Growing vertically when possible

SLIDE 22: Commercial farmers have something to harvest every week

SLIDE 23: Cut and come again crops

SLIDE 24: Succession planting: planting the same crop at different times

OPTION TO COMPLETE ACTIVITY 4: Succession Planting Activity

Calendar Activity

3

TIME: 40 minutes

OVERVIEW:

Farmers will complete the “Planning your planting-calendar activity” to practice reading seed packets, using a calendar to plan weeks to harvest, and reinforce the concept of utilizing transplants.

MATERIALS:

- Long-maturing and short-maturing vegetable examples (real items are best – pictures work too)
- Annual Growing Cycle Poster – showing winter (or very hot/dormant) time, first planting in the ground, first frost/end of growing season, as well as first and last market or other (but not too many) significant milestones.
- Calendar sheets of the current year.
- Pencils for all participants
- Seed packets of relevant crops (optional, but helps)
- Pictures of crops that students want to plant, based on the crop maps they began in Module 3. Need images for seeding and images of finished crops, or seeds.
- Scotch tape or glue sticks



STEP 1: INTRO DISCUSSION

Ask: “Who remembers some of the crops that they decided grow for market?” Show of hands, ask volunteers to give some examples. “What do you all know about how long it takes between planting a seed and harvesting the crop?” Hold up a long-to-mature item (or picture) “Do you know how long it takes between planting a seed of this crop and getting fruit from it?” Hold up a short-to-mature item (or picture) “How about this?” You can do this with a few items. “Did anyone here plant anything last year that never had a chance to mature? What was it? Did anyone here have success with several plantings of the same crop? What were they? How did that work?”

STEP 2: ANNUAL GROWING POSTER

Refer to the Annual Growing Cycle poster. Ask: “When do we want to have things ready to harvest?” (When the market starts!) “Do we also want things available over here (point to mid-season)? And here (late season)? This next activity will help us think through when we plant our seeds in order to have them ready when we want them to be ready. For this we need to think backwards!”



STEP 3: CALENDAR SHEETS

Give everyone (or each pair or table group) calendar sheets. “Ok so what is this? This calendar represents each day in the year with a box, or a number. Who can find today’s date on this? Who knows what a ‘week’ is? What does a week look like on the calendar? There are 52 weeks in a whole year.” Refer to the annual cycle on the wall again: “So we could split this up into 52 sections which would go with the calendars that you have. In fact our growing season – when plants will grow outside – is ____ weeks long.” (Show on annual poster).

Point to the first market date on the cycle. “The first market will be on _____. At your tables, find the first market date on your calendar pages and put an X or check mark on it, or circle it.” Provide help if needed.

Next, have them shade in all the weeks of the market season on their calendars (give them the start and end dates).

TEACHING TIP:

Since the farmers in our program have never grown to sell in the U.S. before, we found it necessary to spend extra time on the planning and calendar activities.



STEP 4: DISCUSSION

Now, hold up the short-to-harvest item again. “This takes ____ weeks from putting a seed in the ground to being able to harvest it for sale. How can we figure out when to plant this if we want to sell it at the first market?” Go around and help participants to count the appropriate number of weeks backwards. “OK so if we want to sell this at market, we will need to put these seeds in the ground on ____ date.”

Now do this with the longer-to-mature item.

“Will you be able to sell it at the first market if you plant it today?” Maybe, maybe not – that’s okay! “When WILL you be able to harvest it?” You want things to sell all market season.

STEP 5: SEEDS

Now, pass out seed packets that have “weeks to harvest” written on them, Perhaps use a highlighter and highlight this information ahead of time. Also pass out cutout images of seeds (or have them take one seed out of the packet, if they won’t go everywhere) and a picture of the mature crop that those seeds grow. “These seed packets tell you the ‘weeks to harvest’ on them. So if we want to harvest them during market season, we can use the ‘weeks to harvest’ information to plan when we will plant the seeds – to schedule your planting.”

STEP 6: CALENDAR ACTIVITY

Do one together at the front of the room: “Let’s pretend that we want to harvest this crop on this ___ date [choose a date].” Find it on the calendar. “When will we need to plant it?” Look at the seed packet: “On the seed packet it says it takes ___ weeks to harvest. So let’s count on our calendars that many weeks back. What day should we plant it on?”

TEACHING TIP:

The short-to-harvest and long-to-harvest discussion brought up interesting points about the particularities of Tucson’s growing seasons. Since we plant greens and root crops through the winter, we discussed how days to maturity may actually be longer due to shorter days.

STEP 7: MATCHING

“Now, do it for your own crops: put the picture of the harvested crop on the day when you want to sell it, and figure out when you will need to plant it (look at the seed packet). Put the seed picture (or tape the real seeds) on the appropriate day of your calendar when you will plant it.”

Go around and help people.

Once they’re done, ask for volunteers to share: “How was that activity for you? When will you be planting your crops? Did anyone have any difficulties?”

STEP 8: TRANSPLANTS CONVERSATION

“What about the crops that take a really long time to grow? Did anyone have trouble with those last year? Why? Did it frost before you could harvest? What if the length of our growing season is shorter than the number of weeks that it takes a crop to mature?”

a. You can start them in a greenhouse and then transfer them to the farm when the soils is warm enough.

b. You can buy “seedlings” or “transplants,” but then sometimes it’s hard to know when they were planted – or when they will bear fruit.

Ask: “Which of your crops do you think you will start inside the greenhouse?”

STEP 9: PUT ON THE WALL

Records for all farmers to keep:

- The location of where you planted your crops.
- The dates when you planted each crop.

Ask: “What support will you need to make sure you can keep these records? What other questions do you have about what we have done here?”

VARIATION:

If this module was conducted alongside a field activity, I might suggest following up with demonstrations on how to properly thin and weed as suggested in the presentation.

Succession Planting

4

TIME: 40 minutes

OVERVIEW:

Farmers will complete the “Planning your Planting: Succession Planting Activity” which will reinforce the idea of maximizing space, calendar/weeks to harvest and optimal harvest.

MATERIALS NEEDED:

- Blank succession planting maps (Included at the end of this Users Guide)
- Example succession planting map poster, completed ahead of time, before class does

activity

- Succession planting slide from the PowerPoint presentation
- Cutout pictures of crops with weeks to harvest written on back or bottom of picture. (or have seed packets with weeks to harvest highlighted on them)
- Calendar sheets
- Pencils for students
- Glue sticks or invisible tape
- Markers for example



STEP 1: DISCUSSION

“All of us have chosen some market crops that don’t take a long time to mature – how can we make the best use of the small space we have?”

- a. We can seed it again after one crop is finished.
- b. We can put in transplants after one crop is finished.
- c. We can do both!
- d. We can put in different “plantings” of the same crop in one bed to get continuous harvests for many weeks of the market season.

STEP 2: EXAMPLE

“Let’s use an example: [mustard greens, green onions, bush beans, carrots, cilantro, etc.]”

- a. “First of all, how long can you harvest from that crop: One week? Three weeks?”
- b. Block off the weeks when you will harvest the first crop of this item on the calendar. “So I can sell it from here to here.”
- c. Now, we can plant some more that we can harvest in [these] weeks right after the first crop is finished. Block off another set of weeks in a different color. “So I’m selling it this day through this day.”

STEP 3: SUCCESSION PLANTING

Put the succession planting slide up on the screen. “This person is growing three different harvests of the same crop.”



STEP 4: SUCCESSION PLANTING MAP

Walk through a succession planting map together on a large sheet at the front of the room. “So I’ve decided that I will harvest beans for two weeks before I need to pull the plants out and plant something new in that same space.”

a. “First, I paste a picture of beans in the top of my map. Counting back, to know I need to plant them ___ weeks before I harvest them. So I write that I will plant them on _____ date.”

b. “Then, I put another picture of beans on this next section of my bed map. This I will plant two weeks later (write the date in the space, as above), so that I will now have four weeks of continuous harvest of beans between these two sections of my land.”

c. “I can make even another planting of beans here (the last section of the bed map), plant them two more weeks later, and now I will have six straight weeks of beans for my market.”

d. “What can you do with the land after you’ve pulled the bean plants out? Can you plant another crop of beans that year? (Do you have enough time in the growing season?) Will you plant transplants of something else? The possibilities are many, but what is important is that you start to think about it ahead of time to use your limited space well. Use the second bed map to draw a possible second crop they can get once the first set of crops has finished.”

e. If you have an advanced group, you can ask them to explain how they would combine the strategies of succession planting and cut-and-come again crops.

VARIATION:

One reviewer suggested that you could add more information on succession planting: how it works, appropriate methods, companion plant examples, etc.

STEP 5: ACTIVITY

Hand out succession map activity sheets, crop pictures, tape, pencils, seed packets and ask participants to try doing the same activity using one of their market crops (you can help them choose based on the crops they picked for market in the last class).



STEP 6: DEBRIEF (10 MINUTES)

Together or in small groups:

a. “Which crop did you put on your maps?”

b. “How many plantings will you do?”

c. “What new ideas do you have about planning for the market this year? What do you want to know more about?”

This could also be done as a way to share the product of the activity, with each person sharing their Succession Plan with the large or small group.