The Project that Never Ends

Project Write-up: Albuquerque Plant People Facebook Group, integrating social media with composting education and resources and promoting the Bernalillo County Extension Office Master Composters Program.

1. Introduction:

The Albuquerque Plant People Facebook Group (the "Group") is an online community of people largely in the Albuquerque, Bernalillo County, New Mexico area with interests in anything plant related. As creator of the Group, it has been my intention to integrate information about composting into the Group to foster interest in promoting and facilitating composting practices among the members.

Outside of its social aspects, I aim to educate and support individuals interested in composting by providing a comprehensive collection of guides, tips, and resources. Facebook groups that utilize guides incorporate a progress tracker feature to help users track their progress through the guides while keeping track of their newly gained knowledge in their composting journey.

2. Objectives:

- The Group is, foremost, a social media group for plant enthusiasts (due to the broader audience), but seeks to incorporate the following objectives:

A. Educate members about composting techniques, methods, and best practices:
   a. Provide detailed guides and resources covering various composting methods such as static composting, hot composting, vermicomposting, and bokashi composting.
   b. Offer step-by-step instructions on setting up a compost bin, managing compost piles, maintaining proper moisture levels, and achieving the right balance of carbon and nitrogen-rich materials.
   c. Share information on compostable materials, including a list of common kitchen scraps, yard waste, and other organic materials suitable for composting.
   d. Educate members about the benefits of composting, such as reducing landfill waste, enriching soil fertility, and mitigating greenhouse gas emissions.

B. Provide comprehensive guides and resources for beginners and experienced composters:
   a. Cater to individuals who are new to composting by offering beginner-friendly guides that explain the basics and provide practical tips for getting started.

b. Create advanced guides for experienced composters, including information on troubleshooting common composting challenges, optimizing composting processes, and utilizing compost in specific gardening applications.
c. Curate a library of resources such as videos, infographics, articles, and external references to support different learning styles and provide in-depth knowledge on composting-related topics.

C. Foster a supportive and interactive community:
    a. Encourage members to actively participate in discussions, share their composting experiences, and ask questions.
    b. Facilitate a supportive environment where members can seek advice, troubleshoot problems, and receive guidance from experienced composters and administrators.
    c. Organize regular Q&A sessions, live chats, and virtual workshops with composting experts to provide direct access to specialized knowledge and enhance community engagement.
    d. Promote networking and collaboration among members by facilitating connections between composting enthusiasts with similar interests and geographic locations.

D. Motivate members to actively engage in composting by incorporating progress tracking:
    a. Unfortunately, this functionality is currently limited to what is available through Facebook, but can be expanded as Facebook adds more features or through the use of an external website for the community that:
        i. Implements a user-friendly progress tracking feature that allows members to create and update their composting profiles.
        ii. Enables members to record and track important milestones in their composting journey, such as starting a compost pile, achieving optimal temperature, overcoming specific challenges, and harvesting mature compost.
        iii. Provide visual representations of progress, such as badges or levels, to recognize and celebrate members' composting achievements.
        iv. Offer encouragement, support, and personalized recommendations based on members' progress to keep them motivated and engaged in their composting practices.
    b. Current guide progress tracking allows for:
        i. Guide Completion Tracking:
            1. Each member will have access to a comprehensive list of composting guides available within the Group.
            2. Members can mark a guide as completed when they have thoroughly read and understood the content.

3. The progress tracker will calculate the percentage of completed guides based on the total number of guides available in the Group.
4. Members can update their progress at any time by indicating which guides they have completed.
5. The progress tracker aims to motivate members to explore and complete the available composting guides, providing a sense of achievement and progress in their composting journey.

E. Tracking Group Administrator's (my) Experiments with Compost Use in Houseplant Care:
    a. In addition to the progress tracker for members' guide completion, the Group will incorporate a dedicated section for tracking my experiments with different ways to use compost in the care of houseplants. This section aims to provide valuable insights and practical examples of how compost can be effectively utilized in indoor plant care.
    b. Experiment Documentation:
        i. The Group administrator will document their experiments with using compost in various aspects of houseplant care. This may include incorporating compost into potting mixes, using compost tea as a fertilizer, top-dressing plants with compost, or exploring compost-based organic pest control methods.
        ii. Each experiment will be thoroughly documented, including the specific approach, materials used, observations, and results. The documentation will be shared within the Group to provide members with valuable firsthand experiences.
    c. Detailed Explanations and Techniques:
        i. The experiment documentation will provide detailed explanations of the techniques used by the administrator in applying compost to houseplants.
        ii. This will include step-by-step instructions, dosages, and application methods to ensure members can replicate the experiments with ease.
        iii. The administrators will explain the underlying principles and benefits of using compost in houseplant care, highlighting the positive impact on plant health and sustainability and emphasizing shifting indoor plant care away from synthetic fertilizer use to the greatest extent possible.
    d. Discussion and Feedback:
        i. The Group members will have the opportunity to engage in discussions about the administrator's experiments, ask questions, and provide feedback.
        ii. Members can share their own experiences with using compost in houseplant care, discuss alternative approaches, or seek clarification on any aspect of the experiments.

iii. This interactive discussion will foster knowledge sharing and community engagement, allowing members to learn from one another's experiences.

e. Observational Results and Insights:
    i. The administrator will share their observational results and insights obtained from the experiments.
    ii. This will include information on the performance of plants treated with compost, changes in growth rates, improvements in soil quality, and overall plant health.
    iii. The administrator will provide an analysis of the results and offer insights into how members can effectively incorporate compost into their own houseplant care routines.
f. Recommendations and Best Practices:
    i. Based on the experiment results, the administrator will provide recommendations and best practices for using compost in houseplant care, including an opinion of whether the experiment is worth repeating.
    ii. These recommendations may include specific compost types or blends, application frequencies, and considerations for different plant species or growth stages.
    iii. The administrator will guide members on how to adapt the experiments to their unique indoor gardening situations.
g. By tracking the Group administrator's experiments with compost use in houseplant care, the Group aims to showcase practical applications of compost and inspire members to explore innovative ways of incorporating compost into their own indoor gardening practices.

F. Connecting Members with the Bernalillo County Extension Office Master Composter Program:
    a. The Group administrator (me) recognizes the importance of fostering continuous learning and development opportunities for its members. As part of this commitment, the Group will actively promote and encourage interested individuals to participate in the Bernalillo County Extension Office Master Composter Program. Here's how the Group will facilitate member participation:
        i. Program Promotion:
            1. The Group will regularly share information about the Bernalillo County Extension Office Master Composter Program, highlighting its benefits, curriculum, and application process.
            2. Promotional posts will include direct links to the program's website, application forms, and contact information for any inquiries.

3. The Group will regularly post announcements about upcoming classes and workshops offered by the Bernalillo County Extension Office Master Composter Program.
4. Detailed information, including dates, times, locations (if applicable), and registration details, will be shared in these posts to ensure interested members have access to all the necessary information.
5. In addition to class announcements, the Group will promote special events, such as guest speaker sessions, hands-on workshops, or field trips organized by the Master Composter Program that are open to the public.
6. These event promotions will highlight the unique learning opportunities available to members, encouraging their active participation.
7. To provide insights and generate interest, the Group will allow testimonials and experiences from members who have attended previous classes or workshops offered by the Master Composter Program.
8. These testimonials can highlight the knowledge gained, practical skills acquired, and the overall value of participating in the program's educational offerings.

ii. Guidance and Support:
1. Administrators and experienced Group members who have completed the Master Composter Program will offer guidance and support to individuals interested in applying.
2. They will address any questions or concerns related to the program, sharing their own experiences and advice to help potential participants make informed decisions.
3. Group members can engage in discussions to seek advice on the application process, program requirements, and the benefits of participating in the Master Composter Program.

iii. Community Outreach Initiatives:
1. The Group will actively advertise community outreach initiatives organized by the Bernalillo County Extension Office Master Composter Program.

iv. Discussion and Q&A:
1. The Group will create dedicated discussion threads or posts for members to ask questions, seek clarification, and share experiences related to the Master Composter Program's classes.

2. Experienced members and administrators can actively participate in these discussions, offering guidance, sharing tips, and addressing any concerns raised by interested individuals.

v. Collaborative Events:
    1. The Group can collaborate with the Master Composter Program to organize joint events or workshops specifically for Group members.
    2. This collaboration could include exclusive educational sessions, Group discounts, or customized content tailored to the specific interests and needs of the Group members.

vi. Social Media Promotion:
    1. Administrators can utilize the Group's social media presence to further promote the Master Composter Program's classes and workshops.
    2. Sharing posts, updates, or highlights from the program's official social media accounts can help extend the reach and visibility of the educational offerings to a wider audience.
    3. By actively advertising the Master Composter Program's classes and workshops, the Group aims to provide its members with convenient access to valuable educational opportunities, further enhancing their composting knowledge and skills.

3. Features and Functionality:

a) Composting Guides and Resources:

The Facebook Group will feature a vast collection of composting guides covering topics such as compost bin setup, composting methods (e.g., hot composting, vermicomposting), compostable materials, troubleshooting common issues, and utilizing compost in gardening and indoor horticulture. The guides will be created and curated by knowledgeable administrators and members, ensuring a comprehensive and reliable resource hub (currently, I am the only one creating guides or other resources).

b) Progress Tracker:

To encourage active participation and progress in composting, the Group will implement a progress tracking system within the guides. Each member can track their progress through the available guides, allowing for a snapshot of the member’s progress through the available material.

Facebook guides also allow for comments by members reviewing the guides, which can be used to track milestones, such as starting a compost bin, achieving optimal temperature, successfully composting specific materials, and harvesting mature compost. Members’ progress updates as

they complete available guides, providing a sense of accomplishment and motivation to continue learning about composting.

c) Community Engagement:

The Group fosters an engaging and supportive community environment where members can interact, share their experiences, seek advice, and ask questions. Members can post updates on their composting progress, share photos of their compost piles, ask for troubleshooting assistance, and provide guidance to others based on their own experiences. Administrators and experienced members will actively participate in discussions, offering guidance and answering questions to ensure a vibrant and helpful community.

d) Events and Challenges:

To keep the Group dynamic and encourage active participation, the Group will seek to host regular events and challenges related to composting.

These can include composting workshops (virtual or in person), Q&A sessions with composting experts, photo contests, and challenges to try new composting techniques or materials. Such activities will further engage members and foster a sense of community.

While not currently available, challenges will ultimately also end in one or more outstanding participants being rewarded.

4. Group Guidelines:

To maintain a positive and constructive environment, the Group has established clear guidelines for member behavior. Guidelines may include rules against spamming, disrespectful behavior, promoting harmful practices, or sharing irrelevant content. The administrators will monitor the Group actively and address any issues promptly to ensure a safe and supportive community for all members. This will also help to ensure that no harmful or misleading information about composting is shared with Group members.

5. Promotion and Outreach:

To attract new members and raise awareness about the Group, various promotional strategies will be employed. This may include sharing informative posts about composting on related Facebook pages and groups, collaborating with gardening or sustainability influencers, leveraging social media advertising, and engaging with relevant online communities outside of Facebook.

6. Future Expansion:

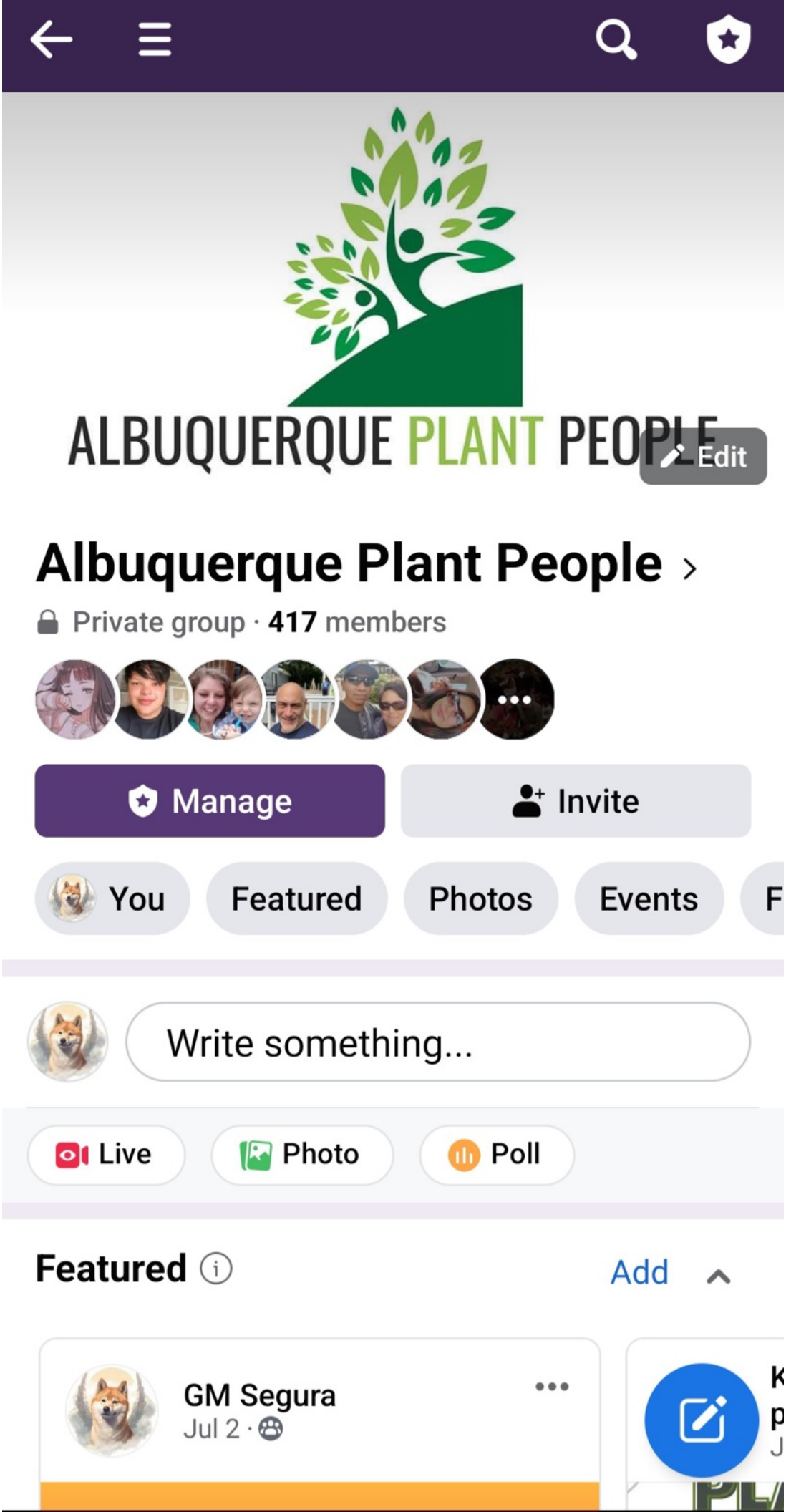
As the Group grows, there may be opportunities for expansion beyond Facebook. This can include creating a website as a companion resource for the Group, organizing offline composting workshops or events, or collaborating with local gardening clubs or organizations. Such expansions will further enhance the reach and impact of the community.

7. Conclusion:

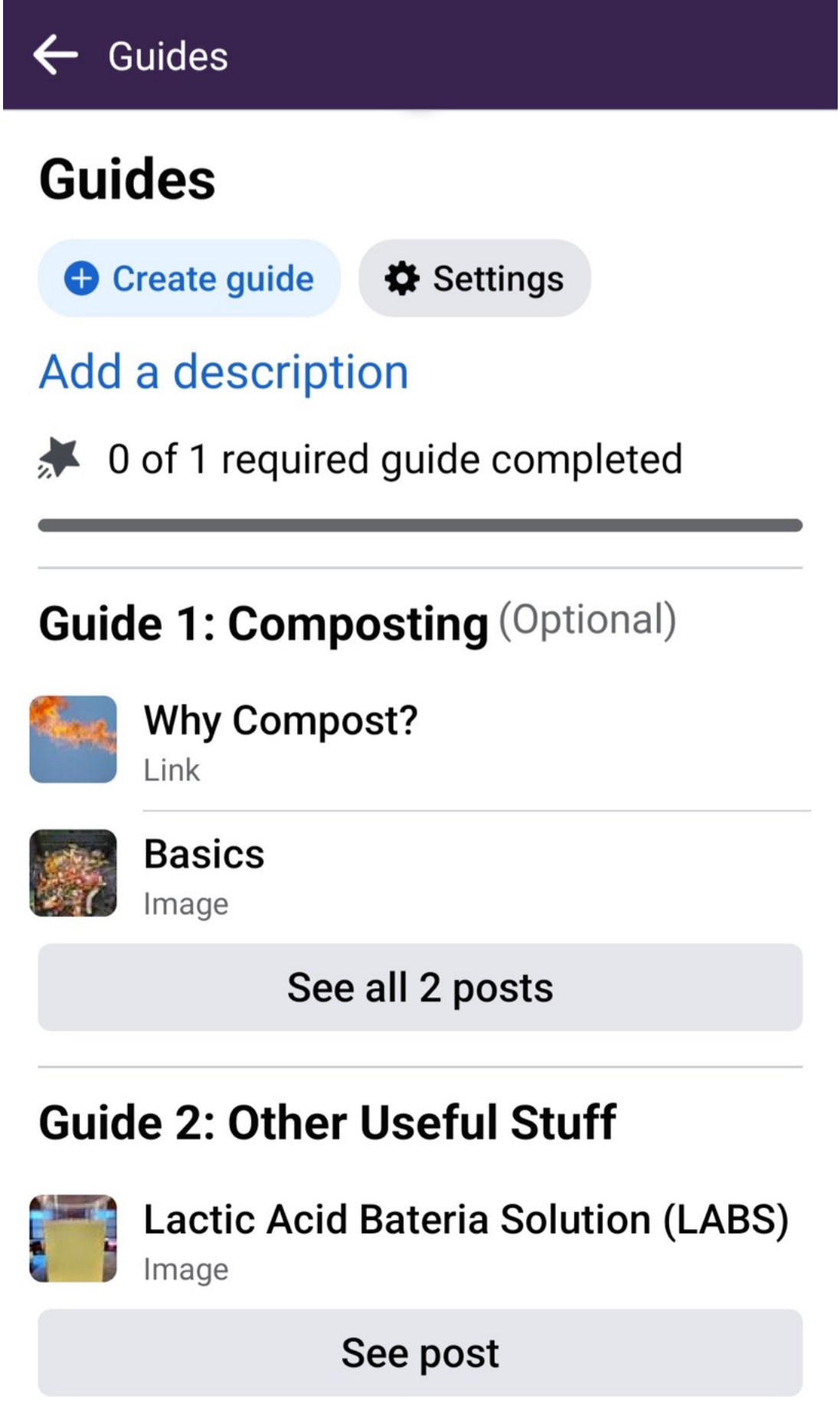
This is, frankly, a very ambitious project that has no real end point. The goal of the project is not to complete the project, but, instead, for it to grow and evolve into a resource that helps to highlight the importance of composting, beneficial uses of compost byproducts for plant care, and to connect members with external resources and additional learning opportunities.

If successful, this project may even outlive me.

Enclosure(s):



The group page for Albuquerque Plant People



An overview of the guides currently available

Basic introduction post for the guides

The inspiration for this guide is my participation in the Bernalillo County Extension Master Composter's program, under which I am currently an apprentice. As I learn and discover, I will update the guide.

All organic matter decays.

In nature, decay can take several forms, from aerobic forest floor litter to anerobic peat bogs.

Composting, as a subject in itself, is about human intervention in the natural process of decay. By intervening in the decay process, humans can either help or hinder the decay process.

Under ideal conditions, finished compost can be prepared in approximately six months.

To get that kind of result you would need to use a hot process composting method, which requires regular attention.

However, there are other, simpler methods of composting that will provide you with a valuable end product with less work. The tradeoff is time.

Generally speaking, there are three (or four) methods of composting, and each of those

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Generally speaking, there are three (or four) methods of composting, and each of those methods can be approached in different ways. Each of them have their own advantages and disadvantages.

In general, the three (or four) composting methods are:

- hot process composting
- cold process composting
- vermicomposting
- bokashi (which is called composting, but is actually a type of fermentation)

Later sections of the guide will discuss the three (or four) composting methods in more detail.

Before all of that, though, we should think about why composting is important and what kind of environmental impact you can have by diverting your organic waste from landfills to compost piles.

See you in the next section.

Guide on why composting is important to the environment

According to the Environmental Defense Fund website, methane gas has over 80 times the warming power of carbon dioxide and approximately 25% of today's global warming is driven by methane produced through human action.

https://www.edf.org/climate/methane-crucial-opportunity-climate-fight#:~:text=Methane%20has%20more%20than%2080,by%20methane%20from%20human%20actions.

Ok, but what does this have to do with composting?

You'll hopefully understand how they are related at the end of this post.

As I mentioned in the previous section, organic decay can occur through aerobic (with oxygen) or anaerobic (without oxygen) conditions. There are several reasons why composters (generally) avoid anaerobic conditions.

To understand those reasons, you must

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To understand those reasons, you must understand what is happening to organic matter under anaerobic conditions.

We'll get more into the compost food web, physical decomposers, and chemical decomposers later on. For now you only need to understand that there are microbes that thrive under aerobic conditions and microbes that thrive under anaerobic conditions.

Some of the microbes that thrive in anaerobic conditions create alcohols that can kill plant life and other bacteria. Others produce gaseous wastes, such as Hydrogen Sulfide and, you guessed it, METHANE!

Now you're probably thinking "OK, but I still don't see the connection…."

The connection is that disposing of organic material in the trash means that it eventually ends up in a landfill. Great! Right? It will still decompose eventually.

Well, yes, but organic waste that goes to a landfill gets chucked in a hole in the ground along with other materials that will not decompose and is compacted as much as possible to preserve space, causing

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Well, yes, but organic waste that goes to a landfill gets chucked in a hole in the ground along with other materials that will not decompose and is compacted as much as possible to preserve space, causing anaerobic conditions around all of that glorious organic matter, and with that comes all of the byproducts of anaerobic decay, including Methane gas.

So, by disposing of organic material in a landfill, we create ideal conditions for the production of methane gas.

Now, what if instead of tossing all of our organic waste in the landfill, we compost it instead?

Well, when you do that, you get a double whammy as a result. First, you prevent organic matter from going to a landfill to create Methane gas. Second, you end up with a valuable end product – compost!

And with compost, we not only prevent damage to the environment, but we can also actively improve our soils. Organic matter content in soils provides cation exchange sites, improves water retention, and helps to sequester atmospheric carbon in the soil, all of which will be discussed in more detail in later sections.

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If you are enjoying this guide so far, please let me know.

edf.org

Methane: A crucial opportunity in the climate

← Guide posts

Lactic Acid Bateria Solution (LABS)

Guide related to one of my common experiments

Why LABS?
Lactic Acid Bacteria fall under the GRAS (Generally Regarded as Safe) category by the Food and Drug Administration, which means they are generally regarded as safe for human and animal consumption.
Lactobacillus bacteria are also already present in your digestive tract.
Lactic Acid Bateria, for our purposes, generally describes the various species and subspecies of the bacteria genus Lactobacillus. There are many different species and subspecies of Lactobacillus bacteria. The reason why we refer to the Lactobacillus species we use in horticulture/ agriculture as LABS (Lactic Acid Bacteria Solution) is because without conducting a review under a microscope, you will never know exactly what species/subspecies of Lactobacillus you have cultured, and you may have more than one type in a single solution. Therefore, we don't refer to our Lactobacillus by name, but more generally as a "solution."
Lactobacillus bacteria are facultative anaerobes. While that sounds fancy, it means that Lactobacillus can survive in oxygen poor or oxygen rich environments, which has some important connotations which we can get into later.

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Now that I've explained what LABS is, you're probably still wondering why we care.
Well, Lactobacillus in general is incredibly useful. Lactobacillus can be used as a probiotic consumed by humans and animals. It can also be used in fermentation of foods or other materials. And if that was not enough, there are numerous applications for Lactobacillus in plant keeping / gardening/ agriculture, and that's why we're all here right?
The following is a brief list of some of the uses for LABS in keeping plants:
- Use for antifungal properties;
- Use for antibacterial properties;
- Use as a biopesticide;
- Plant biostimulant;
- Use as a biofertilizer / boost organic matter decomposition;

Each of these will be discussed in brief detail below, and additional guides may become available for in-depth information at a later date.
Finally, for any of you who want to play along, I will discuss how to culture LABS and how to store the LABS you have cultured for use in your Planty Shenanigans.
Now on to the good stuff.
Antifungal properties of LABS:
In the process of doing what they do (eating organic materials), Lactobacillus produce various metabolites, at least some of which

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various metabolites, at least some of which have been shown to have antifungal properties. Lactobacillus has been shown to reduce fusarium blight in some crops, to reduce Septoria leaf blotch in some crops, has shown antagonistic properties against Botrytis, and has demonstrated antifungal activity against other fungal pathogens in horticultural and food crops.

One use for LABS that I am particularly fond of is to control white powdery mildew. I recently began growing some mint and basil in an indoor sub irrigated planter. After the mint reached a certain size (inhibiting airflow through the plant canopy), my mint leaves remained moist and white powdery mildew began to form, killing about half of the plant and spreading to my basil.

I simply took some LABS, diluted with non-chlorinated water, and sprayed on the affected plant matter and soil. I now have no issues with white powdery mildew on my mint or my basil. While I did have to discard the plant matter that was already affected by the mildew, subsequent growth has been healthy (and delicious).

Antibacterial properties of LABS:

LAB strains create a compound known as bacteriocin (its actually a group of compounds, but that's not relevant right now). Bacteriocin compounds inhibit the growth and/or reproduction of some

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now). Bacteriocin compounds inhibit the growth and/or reproduction of some bacteria. This is part of the reason why lacto-fermented foods often don't go bad over long periods of time.

Additionally, LAB strains can cause membrane damage to pathogenic bacteria. Through different mechanisms, some LAB strains can inhibit the production of biofilms by pathogens.

LAB also contributes to a reduction in pathogens in plant matter via outcompeting pathogens for surface area on the plants or in the soil.

Biopesticide:

LABS are very useful as pesticides/ insecticides. Some LAB strains produce compounds that have been shown to kill nematodes. Others have been shown to have a detrimental effect on fruit flies.

I have read various accounts of attempts to use LABS to help control fungus gnats, with mixed results.

I plan to update this section later on with more specific information after some fun experimentation.

Biostimulant:

Lactic Acid Bacteria create phytohormones, which can act on plant tissue and have similar effects to other growth hormones.

Lactic Acid Bacteria has been shown to promote plant growth and inhibit water/

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Lactic Acid Bacteria has been shown to promote plant growth and inhibit water/ abiotic stress. LAB can also produce Indole-3-acetic acid and solubilize minerals. Indole-3-acetic-acid is a plant hormone known to encourage root proliferation. It is one of the most commonly used rooting hormones in rooting powders and gels. More on the biofertilizer uses of LABS and other helpful information will come in a later section of this guide.

We also like to have fun!

Albuquerque...

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