



Seedway Capital Training

GARDENING & POULTRY MANUAL

First Edition - Training Manual - 2025

A Guide to Growing Vegetables and Raising Poultry at Home

SKILLS DEVELOPMENT TRAINING COURSE

Published by Seedway Agri College

The *Gardening and Poultry Farming* course by Seedway Agri College equips participants with the essential skills to grow nutritious vegetables and raise healthy poultry at home. This integrated approach promotes household food security, income generation, and sustainable farming practices—empowering families and communities to produce fresh food from both the garden and the coop.



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1. Introduction

An Introduction to Integrating Poultry with Plant Life

The relationship between chickens and gardens on a homestead can present both challenges and benefits. Chickens contribute to natural pest management and soil fertilization, but unrestricted access may also result in damage to garden beds. With appropriate planning, it is possible to organize a space where chickens support soil health and plant growth without causing harm. This guide outlines practical strategies for effectively managing poultry and gardens together.

Utilizing mulch and physical barriers, such as wire arches or row covers, helps protect susceptible plants from chicken activity. Gardening and poultry keeping can be integrated to create systems where chickens aid with pest control, enrich the soil, and assist in composting, while the garden provides suitable areas for foraging, grazing, and shelter.

By implementing proactive measures and using necessary supplies, it is feasible to facilitate coexistence between chickens and plants. The following manual will focus on protecting plants while maximizing the positive contributions of chickens to the garden environment.

Not only do chickens provide a tremendous nitrogen source to the area, but they are also champions of turning the soil, eliminating weeds and creating compost in place.



2. How Do Chickens Benefit a Garden?



Having a flock as your gardening groundskeeper can enrich your garden both directly and indirectly. Indirect benefits are safer for your garden but require more work on your part. Direct benefits are work that your chickens can do right in the garden, but they take a little more monitoring and controlling.

There are numerous ways that your backyard flock can help you in the garden.

Chicken will benefit your garden with the following:

- Pest Control
- Composting and fertilizing
- Tiling your soil
- Weeding
- Thinning seedlings
- After harvest clean up





3. How does the garden benefit the chickens?

A garden benefits chickens by providing them with a diverse diet, natural control, and opportunities for foraging and exercise. Chickens can enjoy a variety of plants, including vegetables and weeds, which offer them essential nutrients and keep them entertained.

Here's a quick overview of how gardens help chickens:

Nutritious Food Source: Chickens eat garden plants for essential nutrients.

Pest Control: They eat pests, lowering the need for chemicals.

Physical Activity and Mental Stimulation: Free-ranging lets chickens exercise and stay mentally active.

Entertainment: Exploring the garden keeps chickens engaged and less bored.

4. Getting Started

Developing a pasture-based system is the best way to build the organic matter content in your soil, this can be done with a few birds in a backyard or with full-fledged chicken tractors on a small farm.



Chicken Tractor

Pasturing chickens in a garden that's been put to bed for the season allows the birds to clean up any garden debris, turn over the soil and fertilize the area in the process. This is a terrific way to turn the green waste into delicious, and far more nutritious eggs.



4.1 Prepare the Environment

To successfully introduce chickens into a gardening space, plan for their needs and integrate them gradually. Start by creating a dedicated chicken-friendly area, like a foraging garden or a run, to minimize damage to your main garden. Then, introduce chickens to the main garden with supervised time, gradually increasing their access as they become accustomed to the space and learn boundaries.

The following guidelines can be used to ensure that your garden space is successful.

Dedicated Space

Designate a separate area for chickens to forage and scratch, like a chicken run or a designated foraging garden, to protect your main garden from potential damage.

To create a designated foraging and scratching area for your chickens, you can build a "grazing box" or a fenced-in chicken run. These areas provide a safe and controlled environment for chickens to engage in their natural behaviours like pecking, scratching, and dust bathing, while also protecting your garden or lawn from their foraging activities.

Barriers

Use temporary fencing or netting to protect specific garden beds while allowing chickens access to other areas.

Chicken-Friendly Plants

Plant flowers, herbs, and vegetables that chickens enjoy, like nasturtiums, sunflowers, and kale, to provide a natural food source and enrichment.

Mulch and Barriers

To protect your vegetable garden from chickens, use mulch as a deterrent and create barriers. Chickens love to scratch and forage, potentially damaging plants and scattering mulch. Mulch with flat stones can deter scratching, while wire fencing can be used to enclose specific areas or individual plants.

Chickens enjoy scratching through mulch, so use a deep layer of mulch to make it more difficult for them to reach the soil and plants.

Do not use chemically treated mulch, plastic weed cloth, or pressure-treated wood, as these can be harmful if ingested by chickens.



Here's how to create a grazing box:

➤ **Choose a Location:**

Select a spot in your chicken run that gets full sun to part shade, with relatively level ground.

➤ **Construct the Frame:**

Build a simple wooden frame, at least 4-6 inches tall, or taller if you plan to add soil like a raised garden bed.

➤ **Prepare the Soil:**

Add soil and/or compost as needed. If you're not adding soil, lightly till the existing ground.

➤ **Plant Forage:**

Sprinkle chicken forage seeds (like grasses, legumes, or herbs) evenly across the soil.

➤ **Add a Cover:**

Attach wire fencing to the top of the frame to allow plants to grow through while preventing chickens from pulling them out.

➤ **Maintain Growth:**

Keep the soil moist to encourage sprouting and growth. Replace or re-seed the grazing box when the fodder is eaten or dies back.



4.2 Gradual Introduction

Supervised Time

Start with short, supervised periods of free-ranging in the garden, gradually increasing the time as chickens become accustomed to the area and learn boundaries.

Observe Behaviour

Pay attention to how chickens react to the garden and adjust your approach accordingly. Some chickens may be naturally more destructive than others.

Introduce in Groups

When adding new chickens to your flock, introduce them in stages, allowing them to interact with the established group in a safe, supervised environment according to Purina Mills.

4.3 Long-Term Preparation

4.3.1 Chicken Tractor

Use a movable chicken tractor or run to allow chickens to graze and fertilize different areas of the garden, while also controlling their access.

A chicken tractor is a movable chicken coop lacking a floor. Chicken tractors may also house other kinds of poultry. Most chicken tractors are a lightly built

A-frame which one person can drag about the yard. It may have wheels on one or both ends to make this easier.



With chicken tractors flock owners can raise poultry in an extensive environment and because it can move, it will make it easier to manage your chickens away from your garden allowing you to place it where you need it to be.

The tractor should be designed in a way that it can be moved by dragging to a new location. Building a smaller tractor would be ideal for people that just want a few chickens and have a small yard.

4.3.2 Perimeter Work

Consider a chicken run along the outside edges of your garden to help control pests and fertilize the soil. Chicken run involves setting up an outdoor space, known as a chicken run, for chickens to roam, forage, and exercise, while also providing them with protection from predators and the elements. It's an essential component of a successful backyard poultry setup, offering benefits to both the chickens and the property.



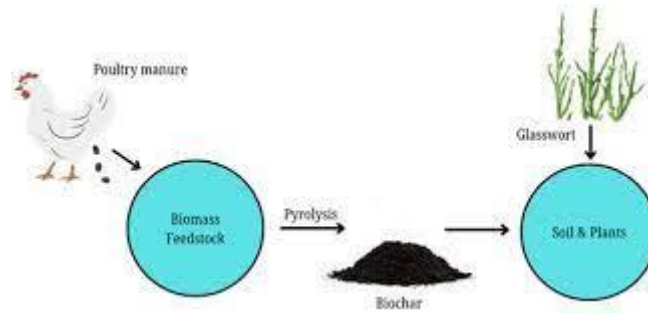
This allows them to access fresh greens and scratch for insects and other treats while preventing them from destroying your garden or other sensitive areas.

4.3.3 Composting

Sometimes using any fresh manure can be risky can carry listeria, salmonella or *E. coli* and potentially contaminate edible crops and cause serious health concerns, allow four months (120 days) between moving the chickens out of the garden area and harvesting. This time frame also minimizes the possibility of burning your plants because of too much nitrogen.

Since chicken droppings is so rich in nitrogen, it must be aged (or composted) before being used in large quantities directly in the garden. Nitrogen-rich substances like chicken droppings can burn young plants and seedlings if it is not aged. Chicken droppings contain about 3-5% calcium, 1-2% nitrogen, and .5% potassium, which are all great nutrients that will benefit your garden soil and plants.

Use chicken manure and bedding materials in your compost to enrich the soil.



- Mixing chicken manure into soil can be beneficial for gardens, but it's crucial to prepare and apply it correctly to avoid harming plants.
- You can add chicken manure to your compost as green material and allow it to be broken down with brown material for a rich compost to add to your garden.
- Half a kilogram 0.5kg of chicken droppings can be composted with 20kg of leaves (or brown material) for an easy and economical compost for your garden.
- When left in small quantities, chicken droppings won't harm your garden when applied directly to the soil. Ensure to rinse your veggies before serving them.

4.3.3.1 Guideline to Composting

The composting process decomposes manure, reducing its nitrogen content and eliminating bacteria. The recommended temperature range for composting is 130-140°F.

➤ **Aging:**

If composting is not possible, storing manure for several months will also decrease its potency. Manure aged about 3 months can be incorporated into soil.

➤ **Visual Cues:**

Manure older than one year typically resembles mud and can generally be mixed into soil for planting.

Application

➤ **Even Distribution:**



Distribute composted or aged chicken manure uniformly over the garden bed prior to planting.

➤ **Incorporate into Soil:**

Mix the manure into the top few inches of soil using a garden fork or tiller.

➤ **Avoid Direct Contact:**

Keep manure away from plant stems and foliage to avoid burning.

➤ **Water Thoroughly:**

Water the area thoroughly after adding manure so nutrients penetrate the soil.

➤ **Mulch:**

Apply mulch on top of the soil to retain moisture and help regulate temperature.

Precautions

➤ **Application Rates:**

Monitor the amount of manure used, as excessive nitrogen may negatively affect plants and disrupt soil balance.

➤ **Growing Season:**

Do not use raw chicken manure during the growing season, since it can damage plants.

➤ **Established Plants:**

When applying aged or composted manure near established plants, take care not to disturb roots when mixing it into the soil.

➤ **Potted Plants:**

Raw chicken manure may be too strong for potted plants. Dilute by mixing one part manure with three parts of water before use.

Following these steps allows chicken manure to function as a soil amendment and fertilizer to support garden productivity.



4.3.4 Consider Size

Ensure your garden is large enough to accommodate both your plants and chickens' needs, with ample space for them to forage and roam

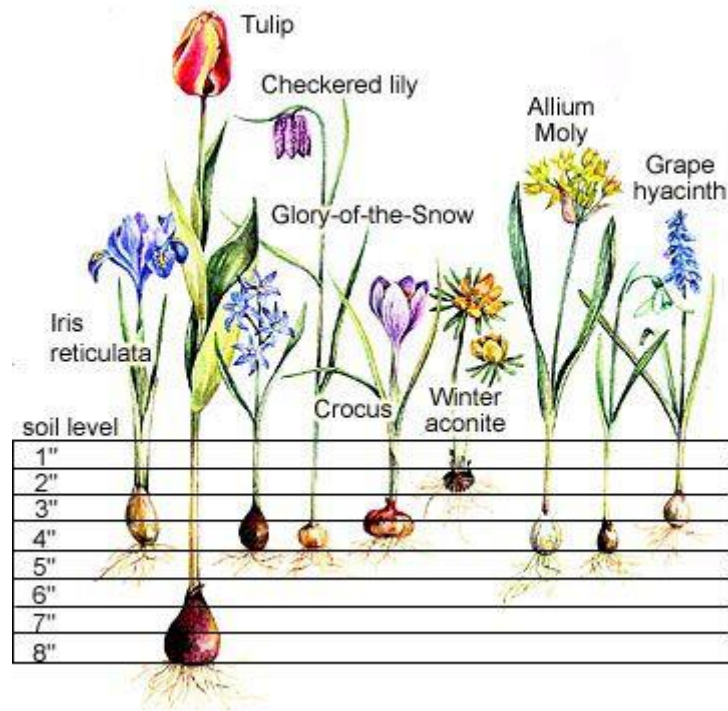
4.3.5 Considerations for Gardeners

4.3.5.1 Be Aware of Plants

Several common South African plants are toxic to chickens and should be avoided in their environment. These include members of the nightshade family (like tomatoes, potatoes, and eggplants), avocado, and plants with cyanogenic glycosides like hydrangeas. Additionally, onions, garlic, and other alliums can cause problems due to their sulphur compounds.

4.3.5.2 *Specific Plants to Avoid*

- **Nightshade Family:** Tomatoes, potatoes (especially green parts), and eggplants can contain solanine, which is toxic to chickens.
- **Avocado:** Avocado pits and peels contain persin, which is harmful to chickens' hearts and respiratory systems.
- **Onions, Garlic, and other Alliums:** These contain sulfur compounds that can cause digestive issues and anemia.
- **Bulb Plants:** Many bulb flowers, like daffodils and tulips, can be toxic, especially their bulbs, due to alkaloids.



Example of bulb Plants.

- **Other Toxic Plants:** Bracken, castor bean, cocklebur, foxglove, hemlock, ivy, lantana, lily of the valley, rhododendron, and yew are also considered poisonous to chickens.



Poisonous plants for chickens

It is important to research what plants are safe for your flock.

➤ **Chicken Health:**

Monitor your chickens for signs of illness or injury and provide them with a balanced diet and access to clean water.

➤ **Enjoy the Benefits:**

Chickens can be a valuable addition to your garden, helping with pest control, fertilization, and providing fresh eggs.

4.3.5.3 Pest Control

Chickens can be great pest control agents if you are dealing with a bug problem and your chickens don't mind eating the pesky offenders. One chicken can de-bug a significant space in the garden area in about one week.

They can also help break up insect and disease cycles in the garden and garden soil. However, chickens can be picky, and they do not discriminate between good bugs and bad bugs.

You can use your chickens as pest control if you are trying to get rid of an outbreak of bad bugs.

4.3.5.4 Eggshells Make a Great Soil Amendment

Eggshells can be a beneficial addition to your garden in South Africa, providing a natural source of calcium and potentially deterring certain pests. They can be used as a fertilizer by grinding them into a powder and mixing them with soil, or by steeping them in water to create a liquid fertilizer. Eggshells also have pest control benefits, as their sharp edges can deter slugs and snails.

Eggshells are a good source of minerals for healthy plants, including:

- Calcium
- Nitrogen
- Phosphorous
- Potassium



Tomato plants and eggshells make the perfect pairing. Just be sure to till them into the soil in autumn. This gives them time to begin to break down before your spring planting.

Here's a more detailed look at using eggshells in your garden:

Benefits:

- **Calcium Source:**

Eggshells are primarily composed of calcium carbonate, a key nutrient for plant growth and cell wall development.

- **Soil Amendment:**

Adding crushed eggshells to the soil can improve its structure, making it more porous and improving drainage.

- **Pest Control:**

The sharp edges of crushed eggshells can deter slugs, snails, and potentially other pests like cats from damaging your plants.

- **Compost Enhancement:**

Eggshells can be added to your compost pile, enriching it with calcium and other nutrients as they decompose.

4.3.5.5 Tilling Your Soil

Tilling soil, also known as ploughing or cultivating, involves turning over and breaking up the soil before planting. This process prepares the soil for better root growth by improving aeration, drainage, and nutrient availability. Tilling can be done manually with tools like a shovel however chickens can do just the job.

Chickens can help you till and aerate your garden soil. As your flock forages through the dirt, they will turn over the first couple inches of dirt which allows air to penetrate while loosening the soil. Plus, because chickens can't dig too deep, this surface-level tilling won't disturb the soil composition.



4.3.5.6 Weeding

Having your flock help with weeding can get a little tricky, but they can do it. Your chickens can help weed between garden rows or areas of the garden that have not been planted.

4.3.5.7 Thinning Seedlings

Thinning seedlings involves removing some seedlings to give the remaining ones more space to grow. The thinned seedlings can be used as a tasty treat for chickens. This practice is common for various vegetables like carrots, beets, and leafy greens.

While it's best not to let your chickens do the thinning themselves, they can help with any leftover seedlings from when you thin the garden. The sprouted seeds will be nutrient-rich and beneficial for your flock!

4.3.5.8 Why thin seedlings?

- **Competition:**

Seedlings planted too close together compete for resources like sunlight, water, and nutrients, hindering their growth.

- **Space:**

Proper spacing is crucial for root development, especially for root vegetables. Thinning allows plants to grow to their full potential.

- **Improved Yield:**

By giving each plant adequate space, thinning can lead to a more robust and abundant harvest.

- **Pest and Disease Control:**

Overcrowding can create an environment that is more susceptible to pests and diseases. Thinning can help mitigate these risks.



4.3.5.9 After Harvest Clean Up

Let your chickens into the garden after you have harvested everything that you want and they will help clean up any leftovers! Nothing must go to waste when you have a clean-up crew waiting to gobble up leftover produce, plants, and weeds!

4.3.5.10 Aerate Existing Compost

Chickens can be extremely helpful with compost maintenance if given access to the compost pile! They can help you turn and aerate your compost pile while adding their droppings to the pile while they work.



5. How to Protect the Garden While Utilizing Your Chickens



When left to their own devices, chickens can (and will) destroy your garden. Of course, this isn't because your flock has malicious intent. It's because chickens are governed by their instincts, and when foraging, they are strictly foraging for food and anything edible.

Implementing preventative measures is essential for gardening productively with your flock. Here are some activities you will want to prevent when allowing your flock to help in the garden:

- **Eating freshly sown seeds:** Don't allow your flock access to areas of the garden that have just been planted.
- **Pulling up seedlings:** Even after the seeds sprout, give them time to mature before allowing your chickens near the young plants.

5.1 Dust bathing

Dust bathing: The loose dirt in the garden may be very enticing for a good dust bath. Many chickens also adore freshly laid garden soil. So, provide your flock with a dust bath location that is away from the garden to discourage dust bathing in the garden.

Chickens naturally take dust baths to help control mites, lice, and other parasites, as well as to clean and condition their feathers. A good dust bath mixture for chickens typically includes a base of loose, dry soil, sand, and can be enhanced with wood ash (from untreated wood) and diatomaceous earth. You can provide a designated area, like a shallow container or a sectioned-off space, filled with these materials.

Why dust baths are important:

- **Parasite control:** The dust helps suffocate and kill external parasites like mites and lice.
- **Feather and skin health:** Dust baths help chickens clean their feathers and skin, removing dirt, oil, and loose feathers.
- **Temperature regulation:** Dust baths can help chickens regulate their body temperature, especially during warmer weather.





- **Eating leaves, flowers, and fruits:** Chickens will eat the same foods that you eat from your garden. They may also strip a plant of its leafy greens or flowers as well. Fencing is your garden's best protection!
- **Trampling plants:** Even if chickens don't eat the plants in your garden, they can easily trample young, fragile, or short plants. Again, fencing will be imperative for protecting your garden!
- **Digging and exposing roots:** Chickens are master diggers, which can be helpful for aerating and tilling, but not so helpful once you have plants in the ground.

5.2 How to Chicken-Proof Your Garden

Even though chickens can be rather destructive in the garden, there are still many resourceful ways you can use to protect your garden and still allow your chickens to help.

Controlling the natural foraging instinct of your flock is impossible, so you will want to focus your efforts on protecting your plants.

5.2.1 Cages Keep Your Plants Protected

Cage off plants that are especially attractive to chickens or plants that may be trampled. You can buy dome or bell cages, or you can make your own plant cages using chicken wire. A simple DIY plant cage can be made by wrapping chicken wire around an upside-down tomato cage.

5.2.2 Fencing

Fencing can be used to block off access to certain parts of the garden or specific crops. Since chickens can fly, fencing that is at least 4-5' high will be needed to discourage your flock. Tall fencing will discourage all but the best flyers.

Also, make sure the fencing is sturdy but leave the top line of the fencing unstable. When a chicken lands on the fence, an unstable or uneven top line can make it difficult for them to perch and then hop down into the garden.

Poultry netting, chicken wire, galvanized wire, or chain-link dog kennels can all function as garden fencing. Fencing that has openings no bigger than ½" will provide the most protection from close-range munching.



There are many unique and effective ways to fence off the garden. Just keep in mind that determined chickens can find ways around or over fencing if it is not adequate to discourage them.

5.2.3 Protect Plant Roots

For plants that don't appeal to your flock's taste buds, you may want to focus on protecting their roots. Place paving stones or large rocks around the base of the plant to cover up any soil that is protecting the plant's roots.

5.2.4 Raised Gardens

Raised gardens make it harder for your flock to access the actual plants in the garden.

Keep in mind chickens may still fly up to the raised garden beds, so fencing and plant protection may still be needed. However, if the plants are above eye level for the chickens, they may not know they are there and will ignore the raised garden beds. Chickens can still help with pest control if they forage around the raised beds.

Use these methods to protect your entire garden, parts of your garden, or specific plants depending on how much access you want to give your flock to your garden.

5.2.5 *How to Best Use Chickens in the Garden*

Once you have figured out ways to protect the most prized parts of the garden, you can start considering different ways that you can use your backyard flock for maximum production.

Here are some ways you can control your flock's direct help in the garden:

- **Chicken Tractors:** A chicken tractor is basically a portable pen that will contain your flock but allows you to move the pen around to different locations in the garden.
- **Chicken Chunnel:** A chicken chunnel is basically a tunnel-like structure made from chicken wire that you can build between rows in your garden or around the circumference of your garden. Your chickens can wander throughout the garden in the chunnel without disturbing your garden plants.
- **Supervised Garden Time:** Sometimes you can give your flock direct access to the garden if you are there to supervise. Work on weeding, pruning,



thinning, mulching, or harvesting while you supervise your flock in the garden.

- **Rotate 'Grow Zones':** Have your garden fenced off into several different sections that you plant at different times. Then rotate your flock through the different sections when a section is not planted after a section has been harvested, or when the plants can withstand your flock's foraging. This gives their manure time to age while they till the soil.
- **Allow Off-Season Free-Ranging:** Giving your flock access to the garden in the 'off-season.' controlling where they can go in the garden or giving them access to limited parts of the garden can still allow your flock to help in the garden directly.

6. Feathers, Flowers, & A Flourishing Garden



After you cultivate a better understanding of how chickens can help your garden, don't hesitate to get your hands dirty. Using your gals to keep your plants glowing green and growing strong is a wonderful benefit of keeping a flock (even though it takes a bit of planning and preventative measures). So, if you have a green thumb and a special place in your heart for your best hen friends, you can have a homestead to be proud of!

Provide your girls with plenty of nutrients on the front end with all-natural layer feed to ensure the best compost, fertilizer, and eggshells on the back end!



7. Integrating Chickens into Your Garden: A Summary

Benefits, Challenges, and Practical Tips

- Chickens can enhance gardens by controlling pests, fertilizing soil, weeding, aerating, and helping with composting. Their eggshells and manure are valuable soil amendments.
- To prevent plant damage, introduce chickens gradually with supervised access, and use barriers like fencing, cages, or raised beds to protect vulnerable plants and roots.
- Chickens' natural behaviors (foraging, dust bathing, digging) can be destructive, so designated runs, chicken tractors, and rotational access help balance garden health and chicken benefits.
- Rotate chickens through the garden after harvests or during off-seasons to utilize their clean-up and fertilizing abilities without harming crops.
- Prevent chickens from accessing toxic plants and ensure their health with a balanced diet and clean water.
- With planning and protection, chickens and gardens can thrive together, maximizing both productivity and sustainability on the homestead.

THE END.