

# Raising Poultry on Forage

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## Introduction

With human health becoming a major concern in today's society our food supply is also becoming an issue. In today's commercial livestock industry animals are increasingly confined and ration-fed for faster growth rates and higher dollar returns. Among the consequences are environmental problems and questions about food quality and safety. Such practices are causing consumers to demand alternate forms of production.

What are the alternatives? Among the most popular are systems that blend outdoor access with diets that include grazed forage. These systems are promoted as more humane, more environmentally-friendly, and better-suited to small farms. This paper is a brief overview of these systems. I have also included two appendices as resources for developing poultry foraging systems. These were compiled as part of my research into this fascinating topic.

## Types of Alternate Production

There is more than one type of alternate production systems. Among the more widely recognized are *Organic*, *Free-Range*, and *Pastured Poultry* systems. Organic production requires 100% organic feed and/or pasture and outdoor access. Antibiotics are prohibited, as are most synthetic pest controls and medications. Organic production is defined through federal regulation and requires certification.

Free- Range on the other hand, just means the animals is allowed access to the outdoors with predator proof runs and weather proof housing. Free-range areas may or may not have forage. The USDA states free- range poultry should be allowed to roam freely but does not set guidelines for length of grazing season or space requirements. Pastured production can be similar to the free- range production if pasture is assured. However, most pastured production uses moveable outdoor pens to which birds are more densely confined. These pens

are regularly moved to ensure fresh pasture. The concept of pastured poultry is promoted through the American Pastured Poultry Producers Association (APPPA). Unlike Organic production, there are no regulations ensuring that Free-Range or Pastured production meets a recognized standard.

## Housing & Fencing

No matter which system one chooses there will need to be some type of housing along with fencing to keep the predators out. There are numerous types one can choose. I am providing only a few examples here.

Essentially, there are three major types of housing: *fixed houses*, *portable houses*, and *pasture pens*.

Fixed houses can be of any size and are easy to connect for electrical service. However, the birds are on the same ground continuously and damage the soil and vegetation eventually reducing or eradicating the forage (1). If you use a fixed house it would be wise of one to section the forage yard into different plots and rotate your poultry. Fixed houses can be built on ground level and guard animals brought in nightly to keep predators. Another approach is to build them about five feet off the ground—a height that discourages predators but still allows the birds to fly home (4).



Photos of Fixed Housing adapted from: Fanatico, Anne. 2006. *Alternative Poultry Production Systems and Outdoor Access*. ATTRA, Fayetteville, Arkansas.

Portable houses are usually placed on wheels or skids to make moving easier since they might be moved every few days (1). Moving the house at least once a week prevents the forage beneath the house from dying out and encourages healthy re-growth (1).



Photos of Portable Housing adapted from: Fanatico, Anne. 2006. Alternative Poultry Production Systems and Outdoor Access. ATTRA, Fayetteville, Arkansas.

Pasture pens are similar to portable houses. They are typically small, floorless, and are moved daily to fresh pasture. “Pasture” can include traditional pasture forages, lawn grass or gardens (1). It can also include non-traditional forages grown specifically for poultry.



Photos of Pasture Pens adapted from: Fanatico, Anne. 2006. Alternative Poultry Production Systems and Outdoor Access. ATTRA, Fayetteville, Arkansas.

Fencing is important to both keep the birds in and the predators out. It is a good idea to bury the bottom of the fence, but that is not necessary. It can also be turned under going into the yard and staked down to keep predators out. If the top of the fence is wobbly, predators will not be able to climb it without falling off. To keep owls and other predatory birds away, just place some fishing line across the top and let the sun reflect off the line to detour them. Remember, your coop is a place for the birds to sleep at night and they should feel comfortable and secure there (9).

## Choosing Forage

Poultry will consume up to 30% of their body weight in forage when it is available. Forages can consist of anything from trees, to grasses, to forbs. In addition to feed, additional benefits can be accrued from grazing poultry.

Poultry *fertilize* as they graze. Used selectively in horticultural crops poultry can graze weeds, consume insect pests, and even suppress pest nematodes through scratching the soil. Appendix 1 is a table listing some recommended poultry forages and their growing seasons.

## Conclusion

This has been a brief overview of alternative poultry production systems. For anyone considering a poultry operation, this should provide some ideas about the different approaches others are using, and also how forages might help decrease costs.

## References

*The following references have been cited in this publication. They have also been used in the preparation of the table provided as Appendix 1.*

1. Fanatico, Anne. 2006. Alternative Poultry Production Systems and Outdoor Access. ATTRA, Fayetteville, AR.  
[http://attra.ncat.org/new\\_pubs/attra-pub/PDF/poultryoverview.pdf](http://attra.ncat.org/new_pubs/attra-pub/PDF/poultryoverview.pdf)
2. Hemenway, Dan. 1983. Considerations in Designing a Poultry Forage. International Permaculture Seed Yearbook.
3. Hermes, James. 2008. Feeding Pastured Poultry. Feeding Pastured Poultry. Vol 4, No 3. Summer.
4. Hundt, Chris. Predator-Proof Chicken and Goose House design. Permaculture International Journal. Vol 49, p 32–33.
5. Mollison, Bill. Slay, Mia Reny. 1995. 50 Useful Permaculture Plants. Permaculture International Journal.
6. Moore, Allana. February 2009. Poultry Plant Profiles. Acres U.S.A. Vol 39, No 2. p 64–66.
7. Pittman, Arina. Poultry Forage Plant List.  
[www.permaculture.org](http://www.permaculture.org)

8. Slater, Mark, and Gaudio del Dyan. 1991. The No-Tech Chicken House. Permaculture Drylands Journal. Vol 14, p 7. Spring.
9. Ward, Tom. 1991. Chicken Story, Part Two: Strategies. Permaculture Drylands Journal. p 3–7 and 18. Fall.
10. Temperate Chicken Forage Guild.  
[http://permaculture.info/index.php/Temperate\\_chicken\\_forage\\_guild](http://permaculture.info/index.php/Temperate_chicken_forage_guild)
11. Unknown. 1993. Home on the Free Range. Permaculture International Journal. Vol 47, p 30–31. June.

## Appendix 1

# Poultry Forages

Scientific Name	Common Name	Growing Season/Harvest
<i>Prunus tomentosa</i>	Nanking Cherry	Spring
<i>Prunus pumila</i>	Sand Cherry	Summer
<i>Caragana arborescens</i>	Siberian Pea Shrub	Spring, Summer, and Fall
<i>Hemerocallis</i>	Day Lily	Spring
<i>Malus domestica</i>	Apple	Grow Spring. Harvest Summer
<i>Prunus domestica</i>	Plum	Harvest during Summer
<i>Morus nigra</i>	Black Mulberry	Summer
<i>Morus alba</i>	White Mulberry	Spring
<i>Robinia pseudoacacia</i>	Black Locust	Late Spring to Early Summer
<i>Hippophae Rhamnoides</i>	Sea Buckthorn	Summer
	Pasture Grass	
<i>Medicago sativa</i>	Alfalfa	Plant Spring Harvest Summer
<i>Prunus Armeniaca</i>	Apricot	Late Spring
<i>Trifolium fragiferum</i>	Strawberry Clover	Summer to Fall
<i>Brassicacae</i>	Mustard, Broccoli, etc.	Fall
<i>Vicia villosa</i>	Hairy Vetch	Fall to Winter
<i>Securigera varia</i>	Crown Vetch**	Plant it Spring
<i>Symphytum asperum</i>	Comfrey	Summer
<i>Prunus Persica</i>	Peach	Summer to Fall
<i>Ribes hirtellum</i>	Gooseberries	Spring
<i>Ribes aureum</i>	Currants	Spring
<i>Rubus idaeus</i>	Raspberry	Spring
	Rye Shoots	Early Summer
<i>Vicia faba</i>	Fava Beans	Early Summer
<i>Taraxacum Officinale</i>	Dandelion	Early Summer
<i>Plantago</i>	Plantain	Early Summer
	Chickweed	Early Summer
	Lambs Quarter	Late Summer
<i>Rumex</i>	Dock	Late Summer
<i>Helianthus</i>	Sunflower	Late summer
	Cereal Grains	Late Summer
<i>Berberis</i>	Barberry	Spring to Fall
<i>Sheperdia</i>	Buffaloberry	Spring to Summer

<i>Rhamnus Alaternus</i>	Coffeeberry	Spring to Summer
<i>Rhamnus Betulaefolia</i>	Redberry	Spring to Fall
<i>Sambucus Mecicana</i>	Elderberry	Late Spring to Fall
<i>Washintonia Filifera</i>	Fan Palm	Summer to Winter
<i>Celtis</i>	Hackberry	Spring to Fall
<i>Zizphus jujube</i>	Jujube***	Spring to Winter
<i>Rhus</i>	Lemonade Berry	Winter to Winter
<i>Rhus integrifolia</i>	“	Winter to Summer
<i>Rhus choriophylla</i>	“	Summer to Winter
<i>Rhus microphylla</i>	“	Spring to Summer
<i>Rhus ovata</i>	“	Spring to Summer
<i>Rhus trilobata</i>	“	Spring to Summer
<i>Arbutus</i>	Madrone	Spring to Fall
<i>Arbutus arizonica</i>	“	Spring to Fall
<i>Arbutus texana</i>	“	Spring to Summer
<i>Arbutus unedo</i>	“	Fall to Spring
<i>Arctostaphylos</i>	Manzanita	Winter to Summer
<i>Eleagnus</i>	Oleaster	Summer to Fall
	Pomegranate	Spring to Summer
<i>Amelanchier</i>	Serviceberry	Spring to Summer
<i>Symphoricarpos</i>	Snowberry	Spring to Fall
<i>Foriestiera</i>	Wild Olive	Late Winter to Summer
<i>Lycium</i>	Wolfberry	Later Winter to Summer
<i>Vitis</i>	Grapes	Spring to Summer
<i>Parthenocissus</i>	Virginia Creeper	Late Summer to Early Fall
<i>Simmondsia chinensis</i>	Jojoba	Winter to Spring
<i>Quercus</i>	Live Oaks	Spring to Fall
<i>Pistacia</i>	Pistachio	
<i>Pinus</i>	Stone Pines	Spring to Late Summer
<i>Gleditsia triacanthos</i>	Honey Locust	Spring to Fall
	Iron Wood	Spring to Summer
<i>Prosopis</i>	Mesquite	Spring to Late Summer
<i>Cercidium</i>	Palo Verde	Spring to Summer
<i>Amaranthus cruentus</i>	Spanish Greens	Late Summer
<i>Atriplex</i>	Saltbush	Spring to Summer
<i>Avena fatua</i>	Wild Oat	Winter
<i>Cajanus Cajan</i>	Pigeon pea	Fall
<i>Ceratonia siliqua</i>	Carob	Early Fall
<i>Diospyrus virginiana</i>	Persimmon	Late Fall to Winter (Harvest)
<i>Ficus carica</i>	Fig	Spring to Fall
<i>Galium aparine</i>	Cleavers	Spring

	Lespedeza	Spring to Summer
<i>Lupinus</i>	Lupine	Spring
<i>Panicum antidotale</i>	Panic Grass	Spring and Summer
<i>Pennisetum setaceum</i>	Fountaingrass	Spring and Summer
<i>Setaria Italica</i>	Foxtail Millet	Summer
<i>Trifolium</i>	Clover	Spring to Summer
<i>Vicia augustifolia</i>	Narrowleaf Vetch	Summer

\*\*May take up to two growing seasons to become established

\*\*\* Length depends on the type of Jujube

\*\*\* This table is a combination of forages provided from the sources listed in the text references.

## Appendix 2

### Hard-To-Find Literature on Poultry Forage Systems

*The following partial bibliography lists several articles on raising poultry using forages. Much of it comes from secondary literature and may be difficult for the average person to find.*

*Considerations in Designing Poultry Forage* by Dan Hemenway. International Permaculture Seed Yearbook. (1983)

*Feeding Pastured Poultry* by James Hermes. Feeding Pastured Poultry. Vol 4, No 3. (Summer 2008)

*Predator- Proof Chicken and Goose House Design* by Chris Hundt. Permaculture International Journal Vol 49. p 32–33

*Pastured- Raised Poultry Nutrition* by Jeff Mattocks. Heifer International. (November 17, 2002)

*50 Useful Permaculture Plants* by Bill Mollison and Mia Reny Slay. Permaculture International Journal. (1995)



*Poultry Plant Profiles* by Allana Moore. Acres U.S.A. Vol 39, No 2. p 64–66.  
(February 2009)

*Poultry Forage Plant List* by Arina Pittman. [www.permaculture.org](http://www.permaculture.org)

*The No-Tech Chicken House* by Mark Slater and Dyan del Gaudio. Permaculture Drylands Journal. Vol 14. p 7. (Spring 1991)

*Chicken Story, Part Two: Strategies* by Tom Ward. Permaculture Drylands Journal. p 3–7 and 18. (Fall 1991)

*Home on the Free Range* by Unknown. Permaculture International Journal. Vol 47. p 30–31. (June 1993)

*Preserve an Endangered Species with Heritage Chickens* by John Vivian. Mother Earth News. (December/January 1996)

*Ten Commandments for Raising Healthy Chickens (Part II)* Randy Kidd. Mother Earth News. (March/April 1981)

*A Chicken and a Grape Permaculture System* by Herbert H.W. Heesch. Mother Earth News. (March/April 1984)

*Designing Sustainable Small Farms* by John Quinney. Mother Earth News. (July/August 1984)

*Free- Range Chickens* by Mother Earth News editors. Mother Earth News. (July/August 1984)

*A Moving Fertilizer Factory* by John Vivian. Mother Earth News. (December/January 1996)

*Meet Real Free- Range Eggs* by Cheryl Long and Tabitha Alterman. Mother Earth News. (October/November 2007)

*Designing for Permanence* by Mother Earth News editors. Mother Earth News. (September/October 1982)



Cortney Loyd is originally from Wister, Oklahoma. She graduated from Eastern Oklahoma State College with an Associate in Animal Science. She received a Bachelor in Animal Science Production from Oklahoma State University in December 2009.

Cortney is an intern at Kerr Center in 2010. She has a great interest in the meat goat industry, which she has personally been part of since 2002. At the center, she is working with the meat goat and the pastured poultry projects (see photo, Cortney with eggs).

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Available online at [www.kerrcenter.com](http://www.kerrcenter.com) or by contacting the center.



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