

Suppliers of Organic Fertilizers, Rock Minerals, Composts, and Pelletized Poultry Litter in the Ozark-Prairie Region (AR, MO, KS, OK)

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(Providing technical assistance to organic and sustainable farmers in all fifty states.)

Organic farmers and gardeners use natural and organic soil amendments that are not commonly found in garden centers and farmers cooperatives.

This is an informal list of suppliers and dealers in the Ozark-Prairie region of NW-Arkansas, SW-Missouri, SE-Kansas, and NE-Oklahoma who carry organic fertilizers, rock minerals, composts, and pelletized poultry litter. Many of these dealers also carry natural pest control products.

The second part of this resource list features a proportionally-mixed bucket organic fertilizer recipe, modern concepts in organic soil fertility and crop health, and a seven-part "how-to" approach to organic fertility. The last sections contain supplemental literature and web resources on organic fertilizers, cover crops, composts, biodynamic supplements, and microbe teas.

Note: To gain quick access to the Web sites listed below, simply "cut and paste" a Web link from this e-document and drop it into your Web browser's address bar, then "click" to open.

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Examples of Organic Fertilizers, Rock Minerals, Soil Amendments, and Biological Amendments:

Rock Minerals and Rock Dusts:

Soft rock phosphate, hard rock phosphate, sul-po-mag, K-Mag, greensand, rock dust, granite meal, carbonatite, limestone, gypsum

Organic Fertilizers:

Feather meal, cottonseed meal, alfalfa meal, bat guano, kelp meal, fish meal, blood meal, bone meal, chilean nitrate, crustacean meal, blended organic fertilizers, fortified compost blends

Liquid Organic Fertilizers and Biostimulants:

Fish emulsion, seaweed extracts, soluble vermicompost granules, fermented extracts and biologicals (Nitron A-35, Efficient Microbes), and biostimulants (humic acids, seaweed)

Compost, Vermicompost, and Pelletized Poultry Litter:

Municipal yardwaste compost, humified compost, spent mushroom waste, vermicompost, pelletized poultry litter

Humic Substances:

Granular humates, humic acids, soluble humates

Microbial Inoculants and Biological Amendments:

Microbe teas, compost teas, liquid compost extracts, archaea bacteria, Effective Microorganisms, mycorrhizal fungal inoculants

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Part 1

Suppliers of Organic Fertilizers, Composts, Vermicomposts, and Pelletized Poultry Litter

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1.0 Organic Fertilizer Dealers

Nitron Industries

[Contact: Frank Finger]
479-587-1777 (Local)
800-835-0123 (Mail Order)
ffinger@nitron.com
<http://www.nitron.com>
<http://www.gardeniq.com>

Location: Just South of Railroad tracks in Johnson, AR.
Supplies: Broad range of Nitron products and organic fertilizers, the oldest dealer of organic fertilizer products in Northwest Arkansas. Nitron also carries spent mushroom compost from J-M Mushroom Farm in Miami, OK, sold by the cubic yard. Vermicompost in bags.

Old Soul Organics

[Contact: Kyle or Brandon]
1771 Crossover Road
Fayetteville, AR 72701
479-444-6955
info@oldsoulorganics.com
<http://www.oldsoulorganics.com>

Location: Across from Harps on Crossover Road (Hwy 265 and Hwy 45) in Fayetteville, AR.
Supplies: Broad range of organic potting mixes, gardening supplies, organic fertilizers, and specialized liquid organic fertilizers, biologicals, and biostimulants for gardening and hydroponics. Vermicompost in bags.

Fertrell Dealer: Little Portions Hermitage

[Contact: Rick Ims or Don Frank]
350 County Road 248
Berryville, AR 72616
479-253-7710
troubadour@arkansas.net
<http://www.LittlePortion.org>
<http://www.fertrell.com>

Location: Rural location NE of Eureka Springs, AR, and NW of Berryville, AR; see Little Portions web site for directions.
Supplies: Fertrell, based in Bainbridge, PA, is one of the oldest organic fertilizer

companies in the U.S. Little Portions is a Fertrell Dealership, carrying their complete line of organic fertilizers and animal feeds.

Earthly Goods Farm & Garden Supply

[Contact: Debbie Pleu]
P.O. Box 4164
Tulsa, OK 74159
918-583-1990
dspleu@incton.net

Location: Call for directions
Supplies: Long-time, home-based business carrying a broad range of organic fertilizers and natural pest controls for the Northeast Oklahoma region.

Bradfield Industries//Bradfield Organics

[Contact: Bob Scott]
610A E. Battlefield #203
Springfield, MO 65807
417-882-1442
Bscott6500@sbcglobal.net
<http://www.bradfieldorganics.com>
<http://www.bradfieldind.com>

Location: Home office in Springfield, MO. Bradfield Organics has gone national, carried by Purina Feed Dealers across the U.S.
Supplies: Bradfield Organics includes five brands of bagged organic fertilizers and natural weed control for lawns, tomatoes, pasture and farm, vegetables, and corn gluten. Bradfield is a key source for horticultural vinegar (20% acetic acid) and corn gluten in bulk quantities.

Morgan County Seeds

[Contact: Errol Ahlers]
18761 Kelsay Road
Barnett, MO 65011-3009
573-378-2655
errolahlers@juno.com
<http://www.morgancountyseeds.com>

Location: Call for directions
Supplies: Seeds and supplies catering to organic and sustainable farmers in Central and Southern Missouri

Southwest By-Products

P.O. Box 2876
Springfield, MO 65801
417-883-1214

Location: Call for directions
Supplies: Wholesale supplier of cottonseed meal and feather meal

Azomite Rock Dust

P.O. Box 6588
Branson, MO 65615
417-334-8500
417-334-8825 Fax
877-296-6483 Toll-Free
Information@azomite.com
<http://www.azomite.com>

Location: 158 Pointe Royale Drive, Suite D in Branson, Missouri
Supplies: Primary source for Azomite rock dust

2.0 Suppliers of Compost, Mushroom Compost, and Vermicompost

Galen Kropf

7230 Hwy 221 N.
Berryville, AR 72616
870-423-7009
kropfag@emypeople.net

Located north of the Carroll County Fairgrounds, on Hwy 221 N., near the Missouri border.

Galen Kropft produces "humified compost", a premium-grade compost based on the "Luebke compost" system developed in Austria, modified and made available to American farmers by MidwestBioSystems.com. It is available in 30-lb bags or by the ton in bulk. They also supply a compost-manure blend to farmers.

Roger Kropf

16024 Woodland Road
Hughesville, MO 65334
660-287-2008

Located 10 miles North and 5 miles East of Sedalia, MO; call for directions.

Roger Kropft produces "humified compost", a premium-grade compost based on the "Luebke compost" system developed in Austria, modified and made available to American farmers by MidwestBioSystems.com. It is available in 30-lb bags or by the ton in bulk. They also supply a compost-manure blend to farmers.

Neokla Organics

58281 S 500 Road
Rose, OK 74365
918-868-5673
info@earthsmartok.com
<http://www.earthsmartok.com>

Neokla Organics produces the EarthSmart brand of composted poultry litter. See their web site for a list of retail distributors of bagged product, also available by the ton.

J-M Farms Inc.

7001 S. 580 Rd
Miami, OK 74354
918-540-1567
<http://www.jmfarms.com>

Bulk source of spent mushroom compost.

Windswept Worm Farm

Doug and Becky Halphin
1110 Main Street
Blue Springs, MO 64015
816-224-2956
816-726-6869 Cell

816-228-6906 Fax
<http://www.windsweptwormfarm.com>

Worm farm located in old salt mines underneath Kansas City, MO. They specialize in sales of worm castings to gardeners.

Horace Beavers
275 Campbell Rd.
Russelville, AR 72802
479-970-4560
479-890-4529 Fax
horacebeavers@cox.net
<http://www.americanorganicsinc.com>

Horace Beavers is an Arkansas worm grower with large volumes of vermicompost. He also markets through American Organics, Inc., a worm-growers cooperative.

3.0 Pelletized Poultry Litter

Ag-Org
[Contact: John Turner]
10908 Ruby Hall Rd.
Gentry, AR 72734
479-736-9977 office
479-640-7184 mobile
jtturkey@direcway.com
<http://www.ag-org.com>

AgOrg produces a pelletized poultry litter in Ozark, AR (Northwest Arkansas), but their headquarters is located near Houston, Texas. Product is available in 40-lb bags, bulk, or 1-ton tote bags. Bryan Hostick with Poultry Litter Solutions in Oklahoma (918-231-7200) is a major distributor for the South.

Perdue AgriRecycle
<http://www.perdueagrirecycle.com>

The closest warehouse location for Perdue AgriRecycle is Augusta, AR, (near Bald Knob) in Woodruff County, available by the ton in bulk.

MicroStart-60 is Perdue AgriRecycle's organic starter fertilizer, a dehydrated poultry manure product, approved for certified organic production by OMRI (Organic Materials Review Institute) with a "Restricted" label. The restricted label means that it can be used within the 90/120 Days Before Harvest rule in the context of an Organic Farm Plan farm that accounts for soil building and soil fertility.

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Part 2

Organic Fertilizer Recipes, How-To Methods, and Technical Resources on Soil Fertility, Cover Crops, and Composts

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4.0 Practical Organic Fertilizers Recipes, with Supplemental Literature

4.1 Nitron's "Great Tomato Formula"

1 part of each, mixed together in bucket. Place a heaping handful in bottom of planting hole and stir into soil.

- Alfalfa meal
- Fish meal
- Nature Meal for Tomatoes
- Limestone
- Soft Rock Phosphate

4.2 Steve Diver's "Bucket Organic Fertilizer Blend"

Ideally, gardeners will first amend the soil with compost during bed preparation to build soil organic matter and enhance soil biology, soil tilth, and soil moisture holding capacity.

The following organic fertilizer recipe can ensure good soil fertility in the absence of compost, or it can be used as a fertility boost while viewing compost primarily for its soil conditioning benefits.

Use a 4" pot for each part. Mix together in bucket, spread and mix into soil per 100 square foot of growing bed.

- 4 parts by volume, Feather Meal
- 4 parts by volume, Fish Meal
- 2 parts by volume, Vermicompost
- 2 parts by volume, Rock Dust
- 1 part by volume, Alfalfa Meal
- 1 part by volume, Soft Rock Phosphate
- 1 part by volume, Limestone

[This blend has performed superbly in several Ozark gardens in 2006]

4.3 Biodynamic Supplements

Biodynamic (BD) farming uses fermented plant and animal parts (called BD preparations) to facilitate biological and dynamic-energetic processes in soils and crops and to enhance humus formation, plant health, and food nutrition.

Add the following to the "bucket organic fertilizer blend":

- Add a big pinch of Barrel Compost (BC), also known as Cow Patty Pit (CPP)
- Add a big handful of Biodynamic Compost

Available in 1-lb (BC/CPP) and 5-lb bags (BD Compost) through Natural Science Organics in New York

Natural Science Organics
<http://www.naturalscienceorganics.com>

Homeopathic BD sprays are easy to use. Apply to beds after amending soil and raking smooth, and then again when plants are growing. Homeopathic BD sprays are available through GW Agriculture in Texas.

GW Agriculture
<http://gwagriculture.com>

Traditional BD preparations include Horn Manure (BD 500) sprayed on soils during tillage and bed preparation and Horn Silica (BD 501) sprayed on foliage during the growing season. The BD Compost

Preparations (BD 502-507) are inserted into compost piles. Josephine Porter Institute (JPI) in Virginia is the principal source for traditional BD preparations in the U.S.

Josephine Porter Institute for Applied Biodynamics, Inc.
<http://www.jpibiodynamics.org>

5.0 Steve Solomon's "Complete Organic Fertilizer" and Resources on William Albrecht

The following notes and reference material provide historical background to the genesis of:

- "proportionally-mixed" organic fertilizer recipes (such as 4.2 above),
- the influence of Dr. William Albrecht (soil scientist from University of Missouri) on soil fertility concepts in organic farming,
- the importance of blending minerals and organic amendments together,
- the importance of humus,
- the importance of biological activity in soils,
- and the influence of soil fertility on crop health and nutritional quality of foods.

5.1 Steve Solomon's book

Organic Gardener's Composting

Chapter Eight, Maintaining Soil Humus

by Steve Solomon

In: Soil and Health Library

<http://www.soilandhealth.org/03sov/0302hsted/030202/03020208.html>

Index to Chapter One thru Chapter Nine, plus Bibliography

<http://www.soilandhealth.org/03sov/0302hsted/030202/03020201.html>

See Box:

"Making and Using Complete Organic Fertilizer"

Use any pot or coffee can for the portion size. Mix together in bucket, spread and mix into soil about one gallon per each 100 square feet of growing bed or 50 feet or row. Can also be used as a band fertilizer in row crops.

4 parts by volume, seed meals (nitrogen based)
1 part by volume, rock phosphate
1 part by volume, limestone
0.5 part by volume, kelp meal

[See variations in the leaflet below from Kris Johnson]

5.2 Kris Johnson's Collection on Steve Solomon & William Albrecht

Complete Organic Fertilizer

<http://home.woh.rr.com/billkrisjohnson/Garden/CompleteOrganicFertilizer.rtf>

_____ 2-page summary of Steve Solomon's recipe for an Albrecht-minded organic fertilizer blend

Mercy View Meadows

-----The Web site of Bill & Kris Johnson-----

<http://home.woh.rr.com/billkrisjohnson/index.html>

Also see:

Gardening for Maximum Nutrition

<http://home.woh.rr.com/billkrisjohnson/Garden/GardeningforMaximumNutrition.htm>

Albrecht Principles

<http://home.woh.rr.com/billkrisjohnson/Garden/AlbrechtPrinciples.htm>

How to Read Standard Soil Tests

(based on information from Logan Labs)

<http://home.woh.rr.com/billkrisjohnson/Garden/LoganLabsStandardSoilTestRT.rtf>

Producing High Brix Plants

As explained by John Marler of Perfect Blend

<http://home.woh.rr.com/billkrisjohnson/Garden/HiBrix.htm>

5.3 Papers and Newsletters from Gary Kline with Black Lake Organics

Gary L. Kline with Black Lake Organic Nursery (BLO) in Olympia, WA, has several web page downloads that piece together ideas from Dr. William Albrecht and Steve Solomon into the organic fertilizer blend approach he calls "Mineral-Augmented-Organic"; i.e., MOA.

The BLO web page features a series of Newsletter and Seminar presentation downloads that I've found to be a great read, with background notes and references on theories and practices on organic soil management and humus development, paying special attention to minerals.

See:

Black Lake Organics: Newsletters and Presentations

<http://www.blacklakeorganic.com/aboutus.html>

- 1998 BLO Newsletter
- 1999 BLO Newsletter
- 2001 BLO Newsletter
- 2003 BLO Newsletter - "The Soil Fertility Connection To Nutrition And Health"
- Practical Nutrient Management and Its Implication for Nearly Everything
- Soil Fertility and Human Nutrition Earth Day 2004 Panel Discussion
- 2005 January - Why Organic Is Not Enough

Of special interest is Gary Kline's summary on organic fertilizer blends from Steve Solomon and Carl Eliot, two of the leading authors on organic gardening in the Pacific Northwest. Kline's summary is found in the 2003 BLO Newsletter - "The Soil Fertility Connection To Nutrition And Health", starting on page 20.... with the notes and recipes on page 24-25. See:

Vegan's Dream Fertilizer Recipe

Steve Solomon's Not-So-Secret Organic Fertilizer Formula

The relationship between soil fertility and food nutrition is critical. These papers from Gary Kline are an obscure but helpful summary on soil fertility and human nutrition, based on concepts and practices of William Albrecht, Steve Solomon, and others.

6.1 Basic Approaches to Soil Fertility from Steve Diver

The central themes of organic soil fertility are based on well established practices of "humus management," "feed the soil", "proper tillage", "keep the soil covered", and "remineralize the soil." These can be supplemented with modern approaches to mineral balancing, microbial bioaugmentation, and foliar fertilization.

Soil quality or "soil health" results from a balance between all three soil components: soil biology and the soil foodweb, soil physical structure and soil tilth, and soil chemistry and mineral nutrition.

Modern Concept of Organic Soil Fertility and Crop Health

1. Feed the soil (with organic matter, compost, cover crops)
2. Provide a balance of minerals from rock powders (Ca, P, K, Mg, S, and micros)
3. Provide a diversity of trace and rare earth elements (rock dusts and sea solids)
4. Microbial bioaugmentation of root and leaf zones (microbe teas and inoculants)

Rock dusts (trace elements and rare earth elements) and fully mineralized soils (rock minerals, especially paying attention to calcium and phosphorus) are an important contribution to complete food nutrition.

Soil biology practices (composts, cover crops, and microbe teas) help facilitate the bioavailability of mineral elements; i.e. "microbially enhanced nutrient delivery". Soil biology mechanisms underly every aspect of soil tilth, soil humus formation, soil water holding capacity, soil fertility, and soil disease suppression.

6.2 Seven-Step Approach to Organic Soil Fertility

This is the seven-step approach to organic soil fertility that I presented to the Student Organic Farm Club at University of Arkansas in April 2006.

Feed the Soil = Three Pillars of Organic Farming Fertility

1. Cover Crops (and Crop Rotations)
2. Compost
3. Rock Minerals (based on a soil test) and Rock Dusts

Fertilize the Crop

4. [Bucket Organic Fertilizer Blend] or [Pelletized Poultry Litter] or [Bagged Organic Fertilizer]
5. Sidedress or Fertigate (with Nitrogen source)

Supplemental Fertility and Biological Inoculation

6. Foliar fertilization
7. Bioaugmentation with Biological Inoculants and Microbe Teas

[Refer to Section 4.2 for the Bucket Organic Fertilizer Blend recipe]

7.1 Cover Crops for the Mid-South Region

Cool-Season Winter Legumes

- Crimson Clover
- Subterranean Clover
- Austrian Winter Pea
- Bigflower Vetch / Hairy Vetch
- Berseem Clover

Cool-Season Winter Cereals and Broadleaves

- Annual Ryegrass
- Winter Rye
- Winter Wheat
- Rapeseed
- Oilseed Radish

Warm-Season Summer Legumes and Broadleaves

- Buckwheat
- Cowpeas, viny type

Soybeans, viny type
Sunn hemp

Warm-Season Summer Grasses and Cereals

Sorghum-Sudan Grass
Japanese Millet
Pearl Millet

7.2 Resources on Cover Crops

The following resource guides point to a wealth of books, research reports, and Web-based documents on cover crops and their use in cropping systems. Seed sources are listed in the SAN handbook, "Managing Cover Crops Profitably, 2nd Edition."

Overview of Cover Crops and Green Manures

ATTRA - National Sustainable Agriculture Information Service
<http://www.attra.ncat.org/attra-pub/covercrop.html>

Resource Guide to Organic & Sustainable Vegetable Production

Section 3.0: Soil Management and Cover Crops

ATTRA - National Sustainable Agriculture Information Service
<http://www.attra.ncat.org/attra-pub/vegetable-guide.html>

Managing Cover Crops Profitably, 2nd Edition

Sustainable Agriculture Network
<http://www.sare.org/publications/covercrops.htm>

8.1 Compost Application Rates

Low	3-5 tons per acre
Medium	5-10 tons per acre
High	10-20 tons per acre

8.2 Resources on Composting, Compost Use, Compost Benefits

Farm-Scale Composting Resource List

ATTRA - National Sustainable Agriculture Information Service
<http://www.attra.ncat.org/attra-pub/farmcompost.html>

[Market-farming] Alfalfa pellets for leaf-based compost bins

Wed May 25 2005
<http://lists.ibiblio.org/pipermail/market-farming/2005-May/020539.html>

9.0 Soil Fertility Resources

Resource Guide to Organic & Sustainable Vegetable Production

Section 3.0: Soil Management and Cover Crops

ATTRA - National Sustainable Agriculture Information Service
<http://www.attra.ncat.org/attra-pub/vegetable-guide.html>

Alternative Soil Testing Laboratories

ATTRA - National Sustainable Agriculture Information Service
<http://www.attra.org/attra-pub/soil-lab.html>

10.0 Microbe Teas for Microbial Bioaugmentation

The term "microbe teas" reflects a broad category of farm-made compost teas and compost extracts as well as beneficial indigenous microorganism cultures known as IMO in Asia. But "microbe teas" can also include purchased biological inoculants.

A principle of soil biology and humus farming is that higher populations of microbes (Quantity) and a greater complexity of microbial species (Diversity) drive soil fertility.

Microbe teas have become a standard tool in modern organic farming to inoculate and bioaugment soil and crop fertility programs.

10.1 Effective Microorganisms (EM)

Effective Microorganisms, the microbial inoculant developed by Dr. Teruo Higa in Japan, is available from two manufacturers in the United States: Sustainable Community Development in Missouri and EM America in Texas.

Sustainable Community Development

<http://www.scdworld.com>

EM America

<http://www.emamerica.com>

10.2 Compost Teas (ACT)

Aerated compost tea is a compost extract that has been aerated and stimulated with microbial food sources for 12 to 24 hours. The ATTRA publication below provides an introduction to this technology with references and resources.

Notes on Compost Teas

ATTRA - National Sustainable Agriculture Information Service

<http://www.attra.org/attra-pub/compost-tea-notes.html>

10.3 Nature's Own Microbe Tea

T&J Enterprises sells the "Nature's Own Growing System Microbe Tea Brewing Kit", which contains a blend of pre-packed beneficial microbes and a simple microbial aerator in a bucket kit. It is a simple and effective alternative to compost tea brewing.

T&J Enterprises

<http://www.tandjenterprises.com>

11.0 Resources on Cover Crops, Forages, and Ecological Soil Management from Land-Grant Universities and Agricultural Experiment Stations in AR, MO, KS, OK

Farmers and gardeners can rely on standard recommendations from land-grant universities for establishment of cover crops (e.g., forage species, seeding rates, and establishment dates), management of cover crops and crop rotations, and related ecological soil management procedures that are specific to their region.

Likewise, land-grant universities are an excellent source for agrometeorological data such as the last frost date in the Spring and first frost date in the Fall.

11.1 University of Arkansas Publications

University of Arkansas Publications - Index

<http://publications.uaex.edu/>

Forage Clovers for Arkansas
Cool Season Perennial Grasses Series: Orchardgrass
Year-Round Home Garden Planting Chart
General Traits Of Forage Grasses Grown in Arkansas
Summer Annual Grasses
Winter Annual Grasses for Livestock in Arkansas

11.2 University of Missouri

University of Missouri -- Crops Publications

<http://muextension.missouri.edu/explore/agguides/crops/>

Seeding Rates, Dates and Depths for Common Missouri Forages
Crownvetch
Orchardgrass
Annual Lespedeza
The Bluegrasses
Bermudagrass
Red Clover
White, Ladino and Sweet Clover
Birdsfoot Trefoil
Establishing Forages
Renovating Grass Sods With Legumes
Warm-Season Annual Forage Crops

11.3 Oklahoma State University

Oklahoma State University -- Print on Demand Publications

<http://pods.dasnr.okstate.edu/docushare/dsweb/HomePage>

Forage Legumes for Oklahoma
Reseeding Marginal Cropland to Perennial Grasses, Forbs, and Legumes

Oklahoma Forages

<http://forage.okstate.edu>

Forage Legumes for Oklahoma
Arrowleaf Clover
Red Clover
White Clover

Also see:

Forage Legume Establishment and Maintenance

http://oaes.pss.okstate.edu/agronstations/1haskell/haskelltour2000/legume_estab.htm

11.4 Kansas State University

The following sites hosted by K-State provide access to an extensive collection of fact sheets and research reports on topics relating to forages and cover crops.

Kansas Forage Web Site

<http://www.oznet.ksu.edu/forage/welcome.htm>

Kansas Forage Publications Database
<http://www.oznet.ksu.edu/forage/about.htm>

Kansas Crops and Soils Library
<http://www.oznet.ksu.edu/library/crpsl2/>

Especially see these selected K-State titles:

Green Manure Crops, EP11
Cover Crops for Vegetable Growers, MF2343
Summer Annual Forages, MF1036
Using Legumes in Crop Rotations, L778
Kansas Crop Planting Guide, L818
Value of Crop Residue, MF2604

11.5 Literature from Kansas Rural Center

Kansas Rural Center -- Sustainable Agriculture Management Guides
<http://www.kansasruralcenter.org/publications.html>

Kansas Rural Center, a non-profit organization supporting sustainable and organic agriculture, published an excellent series of Management Guides that range from 3 to 7 pages in length. The following titles deal with cover crops, forage crops, crop rotations, and non-chemical weed control in row crops.

Note: These are PDF downloads which requires Adobe Acrobat Reader.

Cover Crops and Legumes
Alfalfa
Austrian Winter Peas
Birdsfoot Trefoil
Brassicas
Buckwheat
Cowpeas
Hairy Vetch
Lespedeza
Red Clover
Rye
Sweetclover
Crop Rotation
Non-Chemical Weed Management for Row Crops

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