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The Environment and Your Health: The Search Language

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Publishers and readers are invited to send material, ideas, and comments for this column to Bill Johnson, Managing Editor, Electronic Green Journal, Arizona State University East, Library Services, 7001 E. Williams Field Road, Mesa, AZ 85212, USA. TEL: 480-727-1160.

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Words, words, words. We live, study, and work in a world of words, yet most of us struggle with being effective in how we communicate. Some 3,000 years ago, Solomon expressed this idea when he considered that "some things never change." There is no end to words. Our mouths never run out of them and our ears are never completely filled. There always seems to be room for more. Of course, communication involves much more than words, but for the purpose of this discussion, I will focus my remarks on written and spoken words as a means of communicating about research related to the environment and your health.

It is essential to keep in mind that language is dynamic. New terms appear regularly and old terms are frequently revised. This discussion represents the current state of affairs with the language of environmental and human health from the perspective of the Library of Congress (LC), National Agriculture Library (NAL), and the National Library of Medicine (NLM). The discussion will be based on Library of Congress subject headings with related terms presented in a table with NAL and NLM headings for comparison purposes. Therefore, the coverage of this topic is not meant to be comprehensive, only timely. My purpose is to expand your awareness of the language used in this interdisciplinary field so your research efforts related to this topic are more effective and efficient. The following aspects of the intersection of environmental and human health are discussed: Biological Control, Bioremediation, Botanicals, Environmental Health, Horticultural Therapy, and Organic Farming. Any number of other fields could be examined. These serve as representative examples to illustrate how library research tools can be used to either enhance or hinder your literature search results.

The importance of this issue could be illustrated with the following example. Your research interests involve bioremediation of certain agricultural products,

such as pesticides, that are suspected of causing severe health problems for residents of a rural community near the area where these pesticides are applied. In order to save time, you decide to review the literature by simultaneously searching Agricola, NAL database, and Medline, NLM database. However, by using "bioremediation" as a subject term, your results will be very misleading since NLM does not recognize this term, hence you retrieve nothing from Medline. Unless, you happen to notice that the results are from only one database, you might conclude that you have made a good beginning with your literature review, when in fact, you have missed entirely, a very important source of information.

Controlled vocabularies are common elements of electronic and print databases used to search for books or articles in library or database collections. These vocabularies take the form of thesauri, indexes, subject headings, and descriptors. They are sometimes available in print and regularly revised by database producers. These vocabularies include broader and narrower terms, "see also" references, "used for" references, and similar designations, but the print versions are rather tedious to work with if they are large in size, such as the Library of Congress Subject Headings (LCSH). Using the online version of these vocabularies can improve the quality of your search results by returning items more relevant to your needs. Keyword searching has allowed many to bypass this important strategy. Like any "quick fix" or "shortcut" methodology, keyword searching may undermine the development of our fundamental understanding of a discipline since the language of that discipline will largely escape our notice. It is not that keyword searching is "bad." it is just that, keyword searching alone, will result in an incomplete picture of available information relevant to your topic. Keyword searching is, in fact, a good way to begin and to identify the controlled vocabulary associated with items in your field of interest.

The first thing to occur in uncovering the "approved terminology" associated with your research topic is the sudden realization that there are many different ways to express the same idea. Some of those expressions are used as an organization's official labels and some are not, depending on the specific resource in question. Many academic libraries in the U.S. use LCSH while medical schools and the databases produced by the National Library of Medicine use medical subject headings (MeSh) which are much more detailed than those used by the Library of Congress for health related topics. If the one searching the database uses a set of terms not supported by the database indexer or cataloger, they will leave the computer terminal or library with a very light load and the false idea that there is not much information on their topic. Alternatively, they may use such broad terms that they waste time sorting through dozens or hundred of irrelevant items. The key is balance and the controlled vocabulary associated with most library catalogs or journal

indexes provides this balance.

One of the most worthwhile exercises a researcher can do from time to time is take a few minutes exploring the language of their discipline using a convenient online database or catalog. Start with a popular expression of interest as a key word search and look for the descriptors or subject terms assigned to the items retrieved. Use those terms to refine the search to either expand or narrow the results. You may discover a new concept and a more efficient strategy for searching online databases, along with developing better communication skills. It will be worth your time. Hopefully, the following examples will help you see the advantages of this research library paradigm as you interact with the electronic library of the future.

<u>Biological Control</u>	<u>Bioremediation</u>	<u>Botanicals, Herbals, Medicinal</u>
<u>Environmental Health</u>	<u>Horticultural Therapy</u>	<u>Organic Farming</u>

Conclusion

Exploring the research language of any topic is likely to lead in many unexpectedly fruitful directions, if pursued with an open mind and determination. Most online public library catalogs facilitate this discovery from the convenience of your home or office computer. If you are exploring a new topic, if you want to make sure that your research language is up to date, or if you want to improve your database search results, it would be worthwhile to investigate the research language related to your current activity.

With the interdisciplinary field of environmental and human health, there are many terms (subject headings) utilized by the Library of Congress, the National Library of Medicine, or the National Agricultural Library, in addition to the many indexing services related to these studies that you may never have dreamed of. Yet, these terms are regularly used by those who organize and facilitate access to the growing collection of information on these topics. I hope that this discussion has alerted you to the importance of knowing the breadth of language associated with your field of interest and with the ease by which online library catalogs allow you to explore the world of words in which you work day in and day out.

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Biological Control: Research Language

Biological control is important to human and environmental health issues, as it relates to food quality, residual levels of certain pollutants such as pesticides, ecosystem stability, and the population levels of organisms considered harmful to humans.

Basically, the subject term **Biological control** follows the organism being controlled, e.g. Pests – **Biological control** or a host organism subject to the benefits of biological control, e.g. Corn – **Biological control**. Biological control may also follow the heading – Control, e.g. Pests – Control – **Biological control**. Another term used in some titles is **Integrated control** which occurs less frequently than the heading **Biological control** and rarely occurs with it. However, the same pattern of search term structure applies for all three basic terms: **Control**, **Biological control**, and **Integrated control**. Geographic divisions (e.g. United States) or publication types (e.g. congresses) may follow the latter two subject terms. The following titles illustrate items which you may expect to retrieve using these terms in a subject search in an online library catalog.

Title	Library of Congress Subject Heading - LCSH
Forest health through silviculture and integrated pest management : a strategic plan	Pests -- Integrated control -- United States.
Methods in ecological and agricultural entomology	Insect pests -- Biological control.
An introduction to biological control	Pests -- Control -- Biological control.

Additional terms associated with **Biological control** that you may find useful, include:

Library of Congress	National Agriculture Library	National Library of Medicine
<ul style="list-style-type: none"> • Allelochemicals • Allelopathic agents • Allelopathy • Animals as carriers of disease • Botanicals • Insect baits and repellents • Insect resistance • Insect traps • Insects as carriers of 	<ul style="list-style-type: none"> • Agricultural-pests Integrated-control • Insect-control • Integrated-pest-management • Natural-enemies • Parasites-of-insect-pests • Pests-Integrated-control • Predators-of-insect-pests • Tree-crops- 	<ul style="list-style-type: none"> • Bacterial-Toxins • Biological-Warfare prevention-and-control • Disease-Vectors • Dose-Response Relationship,-Drug • Host-Parasite-Relations • Insect-Control • Insecticide-Resistance • Insecticides

disease <ul style="list-style-type: none"> • Medical parasitology • Pheromones • Plant kairomones • Vector control 	Diseases and pests-Integrated-control <ul style="list-style-type: none"> • Weed-control • Weeds-Integrated-control • Environmental-aspects 	pharmacology <ul style="list-style-type: none"> • Insect-Repellents • Insect-Vectors physiology • Pest-Control, Biological • Tick-Control • Toxins-biosynthesis
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Using an online library catalog, begin your search for items on this topic by using "Biological control" as a subject heading. Narrow the search by adding appropriate terms such as insects, rodents, pests, weeds, etc. Once you have identified a good match or two, notice the subject terms assigned to the items and continue the search process using these terms if different from what you started with.

Bioremediation: Research Language

Bioremediation is important to discussions related to environmental and human health because of the many areas of our lives which are impacted by this and related technologies such as biotechnology, municipal waste conversion, biomass energy production, genetic modification of foods, water quality, and pollution control.

Three primary terms cover the majority of library resources related to this topic: **Biodegradation**, **Bioremediation**, and **Biotechnology**. These terms may either stand alone or follow another term such as "Factory and trade waste, Hazardous wastes, or Sewage – Purification." The term "Biological treatment" is often used to describe these library materials, however, it never stands alone as a subject heading but always follows terms such as those just listed. Other terms, such as "Environmental aspects, Organic compounds removal, Purification," and "Waste disposal" also follow terms which designate substances which are subject to the action being described. The following titles serve to illustrate this pattern:

Title	Library of Congress Subject Heading - LCSH
Applied bioremediation of petroleum hydrocarbons	Petroleum chemicals -- Environmental aspects.
Biodegradation and bioremediation	Bioremediation.
Biodegradability of organic substances in the aquatic environment	Organic compounds -- Biodegradation.
Biomining : theory, microbes, and industrial processes	Minerals -- Biotechnology.

Due to the interdisciplinary nature of this subject, a wide variety of related terms may help to locate materials not covered by the primary terms mentioned above.

One group of terms includes **Biomass conversion**, **Biomass chemicals**, and **Biomass energy**. Microbiology is the focus of another group of terms, including: **Sanitary microbiology**, **Drinking water – Microbiology**, **Industrial microbiology** and **Soil microbiology**. The subject term **Soil remediation** constitutes an important concentration of remediation resources in addition to those covered by "Soil microbiology."

A wide variety of additional terms offer access to more specific resources. These terms include:

Library of Congress	National Agriculture Library	National Library of Medicine
<ul style="list-style-type: none"> • Agricultural wastes • Biodegradation • Biomass conversion • Bioremediation • Biotechnology • Decomposition (Chemistry) • Environmental monitoring 	<ul style="list-style-type: none"> • Agricultural-wastes • Biodegradatio n- • Biological-treatment • Biomass-production • Bioremediatio n- 	<ul style="list-style-type: none"> • Adaptation,- Biological • Air-Microbiology • Animals,- Transgenic • Biodegradatio n- • Biotechnolog y-

<ul style="list-style-type: none"> • Industrial microbiology • Phytoremediation • Plant genetic engineering • Refuse and refuse removal • Sanitary microbiology • Soil remediation • Ultrafiltration • Water quality biological assessment 	<ul style="list-style-type: none"> • Biotechnology- • Greenhouse-wastes • Integrated-solid waste-management • Liquid-wastes • Microbial-degradation • Microbial-degradation • Phytoremediation- • Phytoremediation- • Refuse-and-refuse disposal-Biodegradation • Sanitary-microbiology • Soil-remediation • Waste-water-treatment 	<ul style="list-style-type: none"> • Cloning,- Organism • Crops, Agricultural-genetics • Crops, Agricultural-genetics • Gene-Expression Regulation • Genetic-Engineering • Insecticide Resistance-genetics • Microbial-Sensitivity-Tests • Plants,- Transgenic • Soil-Microbiology • Water-Microbiology
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Botanicals, Herbals, Medicinals: Research Language

Ranging from the biological control of insects to popular medical treatments and dietary supplements, botanicals, herbals, and medicinals have found a wide variety of uses as we face the 21st Century. Actually, it is more a matter of rediscovering their uses, as many of the applications to which these materials are put have been utilized for centuries.

The wide variety of terms associated with these materials necessitates some organizing.

Therefore, related research terms have been organized into the following groups: Drugs, Food, and Medicine. The category, Drugs, includes basic chemistry and cosmetics. Food includes cookery, poisons, as well as nutrition. Finally, Medicine is the largest group and includes headings for alternative and social medicine as well as quackery.

Drugs

The relevance of drugs to human health is obvious, however, the relationship between drugs and environmental health and conservation is much less apparent. This group of terms sheds some light on the interconnectedness of these issues. Most of the terms are broad and will need to be used in conjunction with words such as health to bridge the gap between these seemingly unrelated topics. These broad terms include: **Botanical chemistry**, **Non-timber forest resources**, **Pharmaceutical industry**, **Phytochemicals**, and **Plant toxins**. Other, more specific words, may be used singularly, including: **Botanical drug industry** and **Herbal cosmetics**. The number of items retrieved with these terms will be relatively few but they will typically be more relevant to the topic of the environment and your health.

Library of Congress	National Agriculture Library	National Library of Medicine
<ul style="list-style-type: none"> • Botanical chemistry • Botanical drug industry • Herbal cosmetics • Non-timber forest resources • Pharmaceutical industry • Phytochemicals • Plant toxins 	<ul style="list-style-type: none"> • Food-composition • Forest-products- • Minor forest-products • Naturally-occurring plant-toxins • Phytochemicals- • Plants, Useful-Composition • Plant-tissues • Plant-toxins- • Secondary metabolites 	<ul style="list-style-type: none"> • Cosmetics-adverse-effects • Occupational-Exposure adverse-effects • Pharmaceutical-Preparations adverse-effects • Plant-Extracts pharmacokinetics • Plants-chemistry

Sample titles include:

Title	Library of Congress Subject Heading - LCSH
Phytochemicals and health : proceedings, tenth annual Penn State Symposium in Plant Physiology, May 18-20, 1995	Botanical chemistry

Botanicals : a phytocosmetic desk reference	Herbal cosmetics.
Medicinal plants for forest conservation and health care.	Botanical drug industry

Food

What could be more relevant to our health than food? What has had greater impact on the environment throughout history than food production? Due to the broad potential scope of this topic, it is necessary to focus our attention on those terms related to the direct application of plant foods to human health. The Library of Congress has designated a number of broad terms to help organize a search for information on this topic. **Cookery** includes far more than a collection of recipes. More specific terms such as foods (cactus, bread, herbs, wild foods, apples, etc.), regions (Chinese, American, etc.), or holidays (Christmas) may be used with it to focus on social customs, historical developments, local folklore, health, safety, and nature. **Ethnobotany** and the related subject headings of **Human Plant Relationships** or **Plants and Civilization** are likely to reveal unexpected but useful discoveries in the literature of environmental health. **Ethnobotany** may appear alone or embedded in other terms associated with specific people groups. Of course, **Ethnobotany** as a descriptive term is not just related to food but is also commonly associated with drugs, medicine, etc.

Library of Congress	National Agriculture Library	National Library of Medicine
<ul style="list-style-type: none"> • Cookery • Ethnobotany • Food poisoning • Natural foods • Human Plant Relationships • Nutrition • Plants and Civilization 	<ul style="list-style-type: none"> • Botanical-gardens • Cookery-natural-foods • Ethnobotany- • Food,-natural • Hallucinogenic-beverages • Human-plant-relationships- • Indigenous-knowledge • Nutrition- • Plants-and-civilization 	<ul style="list-style-type: none"> • Dietary-Supplements • Food-Handling • Food-Irradiation • Food-Microbiology • Food-Poisoning • Health Food • Nutrition • Plants,-Edible • Vegetarianism

Obviously foods may occasionally be unhealthy, non-nutritious, or even poisonous. **Food poisoning** is a term useful for identifying food components, natural or artificial, which impact our health as well as that of the environment. Specific poisons may also be used in combination with the term **Food** to retrieve relevant material, such as Metals, Polychlorinated biphenyls (PCB's), Selenium, etc. **Nutrition** is such a broad term, it appears in some of the most unexpected places, such as with exotic animals and natural resource management in Texas.

Therefore, its use may help to keep your search on track in the broad sense, but more specific terms such as Soils, Plants, Selenium, etc. must be incorporated to yield meaningful results.

Title	Library of Congress Subject Heading - LCSH
A taste of nature : edible plants of the Southwest and how to prepare them	Cookery (Wild foods)
Native American natural resource management : January 1980 - January 1993	Indians of North America -- Ethnobotany -- Bibliography.
The natural poisons in natural foods	Food poisoning.

Medicine/Health

Human health research has occupied scientific minds since the first cut, sneeze, or birth took place. Hence, the body of literature related to human health is of gigantic proportions. The relationship between medical research and environmental health has grown in popularity recently and often falls under the designation – alternative, complementary, or integrative health. The variety of terms used to describe the field suggest that the language of research associated with human and environmental health is quite dynamic. The following collection of terms serves as a beginning, whereby we may open the door into the fascinating world of words from the medical literature at the intersection of human health and environmental conservation. These terms are presented in three groups: General Terms, Botanical Terms, and Systems of Healing.

General Terms

As with any set of general terms, they are a good place to start but must often be used with more specific terms to yield search results that are sufficiently relevant, hence useful. While terms such as "Integrative health" or "Complementary health" may appear frequently in the literature, there is no guarantee that these terms constitute approved "subject headings" by institutions such as the Library of Congress. Often more than one is used for the same book or article. A list of these frequently used terms are included below.

Library of Congress	National Agriculture Library	National Library of Medicine
<ul style="list-style-type: none"> • Alternative medicine • Medicine, Popular • Quacks and quackery • Social medicine • Traditional medicine 	<ul style="list-style-type: none"> • Alternative-medicine • Alternative-therapy • Domestic-animals diseases-alternative-treatment. • Herbs-therapeutic-use • Medical-controversies • Quacks-and-quackery- • Unconventional- 	<ul style="list-style-type: none"> • Alternative-Medicine • Evidence-Based-Medicine • Holistic-Nursing • Medicine,-African-Traditional • Quackery • Social-Medicine • Superstitions-

	therapy	
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Online catalogs facilitate "browsing" from the convenience and comfort of your home or office. There is no telling what you might bump into on the virtual shelves and there is no dust. You can wander through and entire library collection in a matter of minutes where you control the lights, the air conditioning, and the availability of food and drink. Here are a few titles assigned to these headings:

Title	Library of Congress Subject Heading - LCSH
Honey, mud, maggots, and other medical marvels : the science behind folk remedies and old wives' tales	Alternative medicine Traditional medicine
DK encyclopedia of healing therapies	Alternative medicine Medicine, Popular
The vitamin pushers : how the "health food" industry is selling America a bill of goods	Quacks and quackery -- United States

Botanical Terms

Plants have been associated with the healing arts for thousands of years. Hence, the language used to describe these techniques is quite well developed. Only selected terms will be presented here as illustrative of the breadth of terminology in the research literature related to plants, human health, and the environment. Working with plants (e.g. gardening) is treated under a distinct category discussed elsewhere, see the section on Horticultural Therapy. Once again, more than one term is often used to describe the same item. These terms may be organized into two groups, general and specific. The general terms: **Botany, Medical; Medicinal plants;** and **Materia medica, Vegetable** retrieve items such as those presented below.

Title	Library of Congress Subject Heading - LCSH
Cultivation and utilization of medicinal plants	Medicinal plants. Materia medica, Vegetable.
The complete herbal	Materia medica, Vegetable. Botany, Medical.
Early American gardens; for meate or medicine	Botany, Medical. Herb gardening.

Relatively specific terms are those which include a particular plant, by either scientific or popular name, in association with the idea of therapy, expressed as "Therapeutic – use." Occasionally, diverse plant types from localized areas may be identified as therapeutic. Consider these examples:

Library of Congress	National Agriculture Library	National Library of Medicine
<ul style="list-style-type: none"> • Desert plants -- Southwest, New -- 	<ul style="list-style-type: none"> • Botany,- 	<ul style="list-style-type: none"> • Dietary-

<p>Therapeutic use</p> <ul style="list-style-type: none"> • Ferns -- Therapeutic use • Herbs -- Therapeutic use • Herbs – Utilization • Materia medica, Vegetable • Medicinal plants • Melaleuca -- Therapeutic use • Mushrooms -- Therapeutic use • Pteridophyta -- Therapeutic use 	<p>medical-</p> <ul style="list-style-type: none"> • Diet-therapy. • Herbs-therapeutic-use • Herbs-toxicology • Materia-medica, vegetable- • Medicinal-plants • Plant-bioactive compounds • Plants,-useful- • Poisons-. • Preventative nutrition. 	<p>Supplements</p> <ul style="list-style-type: none"> • Drugs,- Chinese Herbal-pharmacokinetics • Drugs,- Chinese Herbal-therapeutic-use • Medicine,- Herbal • Mushroom-Poisoning-therapy • Plant-Extracts pharmacology • Plant-Extracts pharmacology • Plant-Roots • Plants,- Medicinal
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There must be as much art as there is science when assigning subject headings or index terms to a book or article. Certainly, professional judgement comes into play. Since this is not an absolutely objective process, don't expect to understand or agree with every match of subject/index term and book/article. Selected items found using the terms above include:

Title	Library of Congress Subject Heading - LCSH
Rodale's illustrated encyclopedia of herbs	Herbs Herbs -- Utilization Herb gardening Herbals
The fern herbal : including the ferns, the horsetails, and the club mosses	Herbals Pteridophyta -- Therapeutic use Pteridophyta Ferns -- Therapeutic use Ferns

	Medicinal plants
Los remedios : traditional herbal remedies of the Southwest	Medicinal plants -- Southwest, New Materia medica, Vegetable -- Southwest Desert plants -- Southwest, Therapeutic use

Systems of Healing

The intersections of environmental and human health are often related to the power of nature to heal. These junctions offer fascinating opportunities for investigating the interplay between the environment and humans with the results being mutually beneficial. The language of these research areas includes terms like those in the next table.

Library of Congress	National Agriculture Library	National Library of Medicine
<ul style="list-style-type: none"> • Medical anthropology • Medicine, Chinese • Medicine, Oriental • Nature, Healing power of • Naturopathy 	<ul style="list-style-type: none"> • Medical-anthropology • Medicine,-popular • Naturopathy - • Nutrition-humor • Traditional chinese-medicine • Traditional medicines • Traditional oriental-medicine • Wit-and-humor therapeutic-use 	<ul style="list-style-type: none"> • Medicine, Chinese-Traditional • Medicine, Oriental-Traditional • Mental-Healing • Nature- • Naturopathy -

Combining these Library of Congress subject terms with key words like "nature" or "environmental" yields some unexpected jewels:

Title	Library of Congress Subject Heading - LCSH
Cultural and environmental dimensions on health	Medical anthropology -- Congresses Environmental health -- Congresses

Prescription for extinction : endangered species and patented Oriental medicines in trade	Medicine, Oriental Wild animal trade Endangered species
Nature-guided therapy : brief integrative strategies for health and well-being	Nature, Healing power of Nature -- Psychological aspects

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Environmental Health: Research Language

The intersection of environmental and human health is in no way limited to alternative health practice or research. Although the concepts of preventative health and the influence of nature on human health are, more often than not, associated with integrative approaches to healthcare, they are also important to contemporary medical and environmental research. Healthy environments often require a holistic approach to management, with an understanding of the interconnections between human behavior, plants, animals, soil, atmospheric elements, and economic factors. For example, research into **Wildlife habitat improvement**, is related to human health improvement in ways not immediately obvious. Yet, using organic farming techniques to reduce human exposure to toxic chemicals while also improving wildlife habitat in an economically viable system is the holistic goal of such research. Successfully, finding research materials on such topics requires no less of an integrative approach to investigating the scholarly literature. Many words, different words, and unexpected words must all be considered to uncover all aspects of a research topic. This requires time, patience, and the regular research practice associated with the habit of lifelong learning.

Related terms to environmental health include:

Library of Congress	National Agriculture Library	National Library of Medicine
<ul style="list-style-type: none"> • Environmental toxicology • Environmentally induced diseases • Health risk assessment • Housing and health • Rural health • Sanitation • Urban health • Wildlife habitat improvement 	<ul style="list-style-type: none"> • Environmental-health. • Environmentally induced diseases • Social aspects- • Environmental-protection • Environmental protection • Health-aspects • Food-sanitation • Habitat-conservation • Health-risk-assessment. • Native-plant-gardening • Sanitation- 	<ul style="list-style-type: none"> • Animals,- Wild • Environmental Exposure • Environmental Health • Environmental Pollutants-toxicity • Hazardous Substances adverse effects • Hygiene- • Public-Health • Risk-Assessment • Sanitation-

	<ul style="list-style-type: none"> • Toxicology Environmental-health • Wildlife habitat improvement- 	
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Selected items retrieved using various combinations of the above terms include:

Title	Library of Congress Subject Heading - LCSH
Biodiversity and human health	Environmental health -- Congresses Biological diversity -- Congresses
Carcinogenic, mutagenic, and teratogenic marine pollutants : impact on human health and the environment.	Marine pollution -- Environmental aspects Marine pollution -- Health aspects
Critical condition : human health and the environment	Environmental health Pollution -- Health aspects Environmental degradation -- Health aspects
Common ground [videorecording]	Organic farming Wildlife habitat improvement Agricultural ecology

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Horticultural Therapy: Research Language

Horticultural therapy is receiving serious and wide spread attention from social/horticultural workers involved with exercise science, occupational rehabilitation, and vocational training. These programs have been widely applied with these special populations: children, the elderly, the disabled, and those in correctional institutions. Additionally, urban landscapes have been improved and in some cases, city gardens have been used to help feed the hungry in local neighborhoods.

While the idea is not new, horticultural therapy has been the focus of scholarly applied research only for the past few years. As a relatively new discipline, it enjoys a diverse following of specialists from fields such as agriculture, education, psychology, sociology, nursing, rehabilitation, and alternative medicine. This mix makes for a challenging search in the research literature. The Library of Congress has assigned only one subject heading to characterize this interdisciplinary field: **Gardening -- Therapeutic use**. However, a number of related terms may also prove helpful in the search for information related to this topic:

Library of Congress	National Agriculture Library	National Library of Medicine
<ul style="list-style-type: none"> • City planning • Environmental psychology • Garden cities • Gardening -- Therapeutic use • Greenbelts • Herb gardening • Human ecology • Neighborhood Garden Association • Urban beautification • Urban renewal 	<ul style="list-style-type: none"> • Agricultural-education • Garden-cities- • Gardening • Glass-garden • Greenbelts • Greenhouses- • Horticultural-therapy. • Horticulture • Landscape-gardening • Nature-conservation government-policy • Open-spaces • Public-gardens • Therapeutic recreation • Urban-parks 	<ul style="list-style-type: none"> • Agriculture- • Disabled Persons • Environmental Illness-psychology • Environmental Illness-therapy • Environmental-Medicine • Leisure-Activities • Occupational-Therapy • Rehabilitation, Vocational • Urban-Health Services

Sample titles include:

Title	Library of Congress Subject Heading - LCSH
Growing with gardening : a twelve-month	Gardening -- Therapeutic use

guide for therapy, recreation, and education	
The search for environment; the garden city, before and after	Garden cities.
Greening city sites : case studies of good practice in urban regeneration	Urban beautification.

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Organic Farming: Research Language

Food production enjoys a long and varied history around the globe. Farming has also experienced many fast-paced technological innovations in recent years that have called into question many of the agricultural practices found in common use due to a number of serious environmental consequences. Hence, interest in organic farming and other forms of sustainable agriculture is growing. The terminology employed to describe this shift in agricultural methodology focuses on three primary perspectives: specific materials or processes, broad systems, and human/animal protection or quality of life.

The language of specific materials or processes includes: **Organic fertilizers**, **No-tillage**, **Organic gardening**, and **Humus**. The terms which characterize broad systems are most useful if used in combination with these less general terms.

Library of Congress	National Agriculture Library	National Library of Medicine
<ul style="list-style-type: none"> • Agricultural ecology • Agriculture -- Environmental aspects • Alternative agriculture • Conservation of natural resources • Country life • Environmental protection • Humus • Natural foods • No-tillage • Organic fertilizers • Organic gardening • Sustainable agriculture • Sustainable development • Sustainable forestry 	<ul style="list-style-type: none"> • Alternative-farming • Cookery-Natural-foods • Crop-management • Efficiency • Extensive-husbandry • Farming-systems • Farm-management • Food-industry and-trade • Intensive-husbandry • Land-use • Low-input-agriculture • Natural-foods • Organic-culture • Organic-farming • Organic-fertilizers • Sustainability- • Sustainable agriculture- 	<ul style="list-style-type: none"> • Agriculture- • Crops, Agricultural-growth and-development • Diet- • Environmental Microbiology • Food,-Fortified • Food-Analysis • Food-Habits • Food-Microbiology • Food-Preservation • Nutrition • Nutritional Requirements • Nutritive-Value • Quality-of-Life • Rural Health-Services • Vegetables-

Finally, wording which describes certain aspects of the quality of human life, may help to locate resources otherwise overlooked: **Country life**, **Human ecology**, and **Natural foods**. Several sample titles follow, using some of these terms, from general to more specific:

Title	Library of Congress Subject Heading - LCSH
Alternative methods of agriculture / edited by R. Boeringa.	Organic farming
Sustainable agriculture : concepts, issues and policies in OECD countries / Organisation for Economic Co-operation and Development.	Alternative agriculture.
Home grown, by Della T. Lutes.	Country life.

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