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DYES FROM PLANTS: AN ANNOTATED LIST OF REFERENCES

Thomas A. Zanoni Jardin Botanico Nacional Santo Domingo Domincan Republic Eileen K. Schofield Agricultural Experiment Station Kansas State University Manhattan, KS 66506

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INTRODUCTION

The use of dyes from plants has a long history. Evidence of naturally dyed materials dates back to the Egyptians and Phoenicians. Good techniques for dyeing were developed by the Greeks and Romans. Early trade routes introduced new plant dyes from India, Turkey and the Orient.

By the 10th century, the dye craft was flourishing all over Europe. Dyestuffs were important items of commerce and dyers' guilds were established to maintain high standards of work. The popularity of natural dyeing continued to spread for several centuries. An Italian book published in 1540 contained over 200 dye recipes!

In the New World, explorers noticed native Americans using many plants as sources of dyes. Colonists brought with them seeds of favorite dye plants, but they were soon experimenting with local materials.

Natural dyes were used universally until the 1800's when the first synthetic, aniline dyes were manufactured. These soon replaced nearly all natural dyes for commercial use, although plants were still used by artists and craftsmen. The recent back-to-nature movement and renewed interest in crafts has focused attention again on plant dyes.

It is interesting that several sources of ancient dyes are still available to modern workers. Note the similar species names of the plants, a clue that they are dye-plants.

Indigo, derived from <u>Indigofera tinctoria</u> (Fabaceae) was first used in India and later exported to Europe. Although it was difficult to process, indigo was prized for its deep, bright blue color. Spaniards introduced the plant to the New World and colonists brought it to South Carolina. Wild indigo plants can be found there still, remnants of an early export business. Complex woven designs of indigo blue and white were popular throughout colonial America. Indigo was the first dye to be reproduced synthetically and now serves as the coloring agent for blue jeans.

Madder, from the roots of <u>Rubia tinctorum</u> (Rubiaceae) was an important red dye. Its exact origin is unknown, but it was popular in India and later Greece and Rome. A particularly bright shade, called Turkey Red, was common in ancient Oriental carpets but its formula was a closely guarded secret. Depending on the mordant, madder can yield colors of red, purple, orange, brown or even yellow.

The safflower, <u>Carthamnus tinctorius</u> (Asteraceae), better known to us as a source of oil, also yields dye. This native of the East Indies was cultivated and used in Egypt (to dye linen) and China (for silk). The florets produce a bright yellow color similar to the more expensive saffron. If processed differently, safflower colors range from pink and orange to red.

The prized color of purple, often associated with royalty, was derived primarily from a lichen, <u>Roccella tinctoria</u>. The use of orchil started in the Mediterranean area where the plants grew, but quickly spread through Europe. Related species of <u>Roccella</u> have been collected for dyes in the New World. A small industry thrived in the Galapagos Islands until synthetic dyes replaced the natural sources.

Preparing dyes from plants is a craft in which experimentation often leads to failure. A beginner should read some general information on collecting and processing appropriate plants and then follow recipes from a book. After gaining experience, a dyer can specialize in certain plants (lichens offer many color possibilities) or in modifying recipes to achieve new colors.

We have included books, magazine and journal articles that should be available in bookstores or libraries. Most of the books provide some background information and history, as well as specific instructions. The articles tend to deal with more limited subjects, such as details for using one dye plant.

We are grateful to the staffs of the libraries at New York Botanical Garden and Kansas State University for their help in providing references.

- Adrosko, Rita J. 1971. Natural Dyes and Home Dyeing. New York, Dover Publications. 154 p. \$2.25, pap. This book starts with a good history of natural dyes. There are general instructions and recipes for using leaves, bark, flowers and lichens. The bibliography includes a section of dye books printed before 1870. There are a few black and white illustrations and full color endpapers that show dye colors.
- Bearfoot, Will. 1975. Mother Nature's Dyes & Fibers. Willits, CA, Oliver Press. 152 p. \$3.95, pap. Discussion covers native American fibers, stains and paints, preparation of dyes and mordants. The section on dye plants is arranged alphabetically by common name. There is a line drawing of each plant with explicit directions for use in dyeing.
- Bemiss, Elijah. 1973. The Dyer's Companion. New York, Dover Publications. 310 p. \$3.50, pap. This reprint of an early 1800's manual provides over 100 recipes for natural dyes. An experienced dyer would enjoy experimenting with these old methods. An introduction and additional information have been added to bring the text up to date.
- Bliss, Anne. 1976. Rocky Mountain Dye Plants. Boulder, Juniper House (Box 2094, Boulder, CO 80306). 122p. Printed in an unusual format on flip cards held together by three rings. There is a general discussion of fibers, mordants, preparation of dyes, how to predict dye colors, colorfastness and more. The plants are divided into those of plains and those of foothills and mountains. Within each section, they are listed by common names, one to a card, with notes about the plant and its use in making dyes.
- Bliss, Anne. 1978. Weeds, a Guide for Dyers and Herbalists. Boulder, Juniper House (address above). 113 p. \$5.00, pap. Fifty weedy plants, listed by common name, are discussed and each is illustrated by a pencil drawing. There are notes on collecting, preparing dyes, and mordants to give various results.
- Bliss, Anne. 1980. North American Dye Plants. New York, Charles Scribner's Sons. 288 p. \$5.95, pap. This pocketsize guide is based on the author's earlier book on Rocky Mountain plants and covers 126 species of wider distribution. A short introduction reviews collecting, methods and mordants. The catalog of plants is arranged in alphabetical order by common name, but the Latin name is given also. The brief descriptions are followed by a list of colors achieved with different mordants. Each plant is illustrated by a line drawing, some lacking in detail.
- Bliss, Anne. 1981. A Handbook of Dyes from Natural Materials. New York, Charles Scribner's Sons. 180 p. \$14.95. While this author's previous books concentrated on identification of dye plants, this volume deals mainly with techniques. There is a

short history of dyeing, general discussion of dyes, equipment, mordants and methods, including record keeping. Much of the book presents individual dyers from around the country with notes on their special techniques and a few of their favorite plant recipes. An appendix lists suppliers of dyestuffs and fibers. Black and white and a few color photographs illustrate methods and finished products.

- Bolton, Eileen. 1960. Lichens for Vegetable Dyeing. Newton Centre, MA, Charles T. Branford. 63 p. \$6.95.
 A brief history of lichen dyes is followed by notes on the structure of lichens and how to collect them. Lichens are divided into two groups, the orchils (purple colors) and miscellaneous colors to be processed in boiling water. Details are given for water and other methods of extraction. Color photographs show yarn dyed with lichens and color paintings illustrate the various lichens.
- Brooks, Jeanne. 1974. Plants as Natural Dyes. Design 76: 14-16. This short article features color photographs of dye plants, but includes dye recipes for marigolds and lichens.

Bühler, A. 1948. Dyeing among Primitive Peoples. CIBA Rev. 68: 2478-2512.An interesting account of the development of the craft of dyeing among early cultures. Plants were the main sources of dyes and still are for primitive tribes around the world. Many dye processes and dye plants are discussed, with notes on problems and some recipes. There are numerous black and white photographs and line drawings.

Casselman, Karen Leigh. 1980. Craft of the Dyer: Colour from Plants and Lichens of the Northeast. Toronto, University of Toronto Press. 249 p. \$30.00.

The first half of this book provides a glossary of dyeing terms, lists of equipment, notes on plant collecting (in the city as well as the country), an explanation of and instructions for mordants, general dyeing procedures, how to dye with different plant parts and how to teach dyeing in the classroom. The second half is a list of dye plants, arranged alphabetically by common name, followed by Latin name. The inclusion of drawings in this section would have added much to the book. The only illustrations are some good color plates of dyed yarn.

Conner, Berenice Gillette. 1975. Dyes from Your Garden. Miami, FL, E.A. Seemann Publishing. 128 p. \$7.95, pap. The introduction includes short discussions of equipment and methods of dyeing. Most of the book is devoted to dye recipes for specific plants, arranged alphabetically by common name. Some of the tropical plants mentioned are not available in northern gardens, but might be grown as houseplants. There is an index to plants by color groups and a few color plates showing dyed yarns. Unfortunately, there are several errors and inconsistencies in the Latin plant names.

- Crowell, Carolyn and Majtenyi, Joan Z. 1973. Color from the Fields. Chemistry 46: 14-17. Discusses chemical structure of some dyes but emphasizes mordants. A table of dye plants shows the colors achieved by different mordants. There are notes on gathering plants and directions for dyeing wool.
- Davenport, Elsie G. 1981. Your Yarn Dyeing. Mountain View, MO, Select Books. 127 p. \$5.50, pap. Originally published in England, this book has been reprinted several times in the U.S. It discusses all aspects of preparing dyes and dyeing various kinds of yarn. The last two chapters list many wild and cultivated plants that yield dyes, with notes on plant part and mordant to use. Some methods are illustrated by line drawings, but there are none for the plants.

Dyer, Anne. 1976. Dyes from Natural Sources. Newton, MA, Charles T. Branford. 88 p. \$7.50, pap. A short introduction to plant dyeing, including notes on equipment needed, mordants and additives, methods of dyeing, gathering and storing plants. Then there is a lengthy chapter with notes on dye colors obtained by the author from a wide variety of plant materials, including nut shells, coffee grounds, herbs and spices, as well as the more familiar garden or wild plants. Unfortunately, there are no illustrations.

Flynn, Emily. 1971. Make Your Own Dyes from Plants. Horticulture 49(9): 42-45. A good discussion of mordanting agents and how they work. There are directions for dyeing wool with recipes for dyes from six plants. A list mentions numerous other dye plants and which parts to use.

- Gerber, Frederick H. 1978. The Investigative Method of Natural Dyeing. Ormond Beach, Gerber Publications (P.O. Box 1355, Ormond Beach, FL 32074). 74 p. \$4.75, pap. This book brings together a collection of articles from various craft periodicals. Subjects include the use of certain plants for dyeing: indigo, milkweed, pokeweed, cactus, oaks and lichens. There is a discussion of dye plants of the southern U.S.. Finally, there are more general instructions for dyeing procedures, including an organized investigation of variations in dyes and mordants. Several chapters are illustrated with black and white photographs or line drawings.
- Gerber, Fred and Gerber, Willi. 1971. Milkweed and Balduinea in the Dyepot. Handweaver and Craftsman 22(3): 23-24, 40. The authors' purpose is to acquaint the reader with dye plants usually not mentioned in literature. There is a general discussion

of the influence of mordants and type of dyepots. Detailed instructions are given for making dyes with common milkweed (wide U.S. distribution) and balduinea (mostly along Gulf Coast).

- Gerber, Fred and Gerber, Willi. 1972. Notes on Vegetable Dyeing. Handweaver and Craftsman 23(3): 28-30, 32. Part of a series discussing various dye plants. Featured here are the prickly pear cactus and pokeberry. The source of dye in both is the fruit. Complete instructions are given for preparing dyes.
- Grae, Ida. 1979. Nature's Colors: Dyes from Plants. New York, MacMillan. 279 p. \$8.95, pap. A good discussion of all phases of natural dyeing. Included are notes on collecting dye plants, dyeing methods, mordants and recipes for dyeing with lichens and other plants.
- Graff-Small, Sharon. 1979. Natural Dyes from Plants. Herb
 Quarterly 1(3): 33-36.
 General directions are provided for dyeing with different
 plant parts. There are notes on preparing the dye bath and
 the effects of mordants.
- Green, Judy. 1975. Natural Dyes from Northwest Plants. McMinnville, Robin and Russ Handweavers (533 N. Adams St., McMinnville, OR 97128). 95 p. \$5.95, pap. This well-organized book discusses equipment, record keeping, preparation of wool, mordants and collecting dye plants. Dye recipes are arranged alphabetically by plant common names and most are illustrated by a line drawing. A chart groups the plants by color. There is also a section of helpful "trade secrets." Several plants and yarns dyed with them are shown in the color plates.
- Horwood, A. R. 1928. Lichen Dyeing Today: The Revival of an Ancient Industry. Sci. Progress 23: 279-283.A brief review of the use of lichens for dyes, followed by discussion of various processes to obtain different colors. Emphasis is on methods in Scotland, where lichens were popular for dyeing wools used in tartans and Harris tweeds.
- Hurry, Jamieson B. 1930. The Woad Plant and Its Dye. London, Oxford University Press. 328 p. A complete discussion of the history of woad (a member of the mustard family) for dye. It includes the cultivation of woad, development of an industry and trade routes throughout Europe, the woad plant in art and herbals and finally, the decline of the industry.
- Jacobs, Betty E. M. 1977. Growing Herbs and Plants for Dyeing. Tarzana, CA, Select Books. 126 p. \$6.95, pap. The major part of this book gives advice on how to grow 30 plants,

listed by common name. Each is illustrated by a line drawing and there are notes on dye uses. A shorter section gives directions for making and using plant dyes.

Kierstead, Sallie Pease. 1972. Natural Dyes. Boston, Branden Press. 104 p. \$4.95. A concise discussion of plant dyes: collecting the plants, how to extract dyes, mordants, color fastness, and how to dye various materials. There are chapters on ancient plant dyes and those available today and lists of dyes by plant source and by color. Some plants are illustrated by line drawings. Dye recipes are not as exact as in other recent books.

Kok, Annette. 1966. A Short History of the Orchil Dyes. The Lichenologist 3: 248-272. This "short" history actually is quite detailed. It surveys the use of purple dyes from lichens by ancient societies, with many historical references. There is a discussion of various methods for preparing the dyes and the ways in which they were used.

Kramer, Jack. 1972. Natural Dyes. Plants & Processes. New York, Charles Scribner's Sons. 144 p. \$9.95. An inclusive, although somewhat superficial, discussion of plant dyes, telling when to gather plants, which parts to use and how to prepare and use the dyes. There are also notes on preparing various fibers and materials. The section of dye recipes is organized by plant name and color. Many plants are illustrated with line drawings. Charts show the colors obtained from different plants and mordants, and there are numerous other

color or black and white photographs.

Krochmal, Arnold and Krochmal, Connie. 1974. The Complete Illustrated Book of Dyes from Natural Sources. Garden City, NY, Doubleday and Co. 272 p. This book begins with a discussion of the history of natural dyes. Then there are chapters on methods, supplies and dyes to make. The formulas are organized by color, then by type of plant. Each dye plant is illustrated by a line drawing to aid in identification and color plates show the dye results.

Krohn, Val Frieling. 1980. Hawaii Dye Plants and Dye Recipes. Honolulu, University of Hawaii Press. 136 p. \$8.95, pap. The introduction of this attractive book includes notes on equipment, methods and mordants, as well as a short discussion of traditional plant dyes of Hawaii. The rest of the text features details on identification and dye use of about 50 tropical plants, each illustrated by a graceful line drawing. Since many of the plants are available in home or greenhouse, these recipes could be tried even in colder climates. A color plate shows the subtle shades achieved by dyes from all the plants. LaRue, Jane J. 1977. Natural Dyeing with Plants in Michigan. Michigan Bot. 16: 3-14.

Concentrates on dyeing wool with notes on preparation of the wool and use of mordants. There are instructions for collecting native and cultivated dye plants and making dyes from them. The information is applicable to the eastern U.S.

- Lathrop-Smit, Hermione. 1978. Natural Dyes. Toronto, James Lorimer and Co. 72 p. An attractive book, printed with large type and bold headings in brown ink on off-white paper. General procedures, such as equipment, preparation of materials, mordants and preparation of dyebaths, are explained. Dye recipes are organized by color, with plants listed alphabetically by common name within each color section. Each is illustrated by a line drawing. An appendix discusses dyeing with lichens. This is one of the most readable of recent books on plant dyes.
- Leechman, Douglas. 1943. Vegetable Dyes. Toronto, Oxford University Press. 55 p. Most of the book is devoted to dye recipes, arranged by plant species, then by color. There is also a list of dye plants organized by color and directions for handling wool and preparing dye baths.
- Leggett, William F. 1943a. Madder-Ancient and Medieval. Jour. New York Bot. Gard. 44(520): 85-92; (521): 108-114. A detailed history of madder, probably the most important source of that most popular color: red. It was grown and used by many societies, for centuries, to dye carpets and clothing, including soldiers' uniforms ("redcoats"). A description of the plant and the dye process is included.
- Leggett, William F. 1943b. Indigo-The Medieval "Devil's Dye". Jour. New York Bot. Gard. 44(526): 233-238. This concise history traces the use of indigo from ancient times to the sophisticated era of dyeing in Italy. Competition with woad, another blue plant dye, led to efforts to discredit indigo by calling it a' "devil's dye." The introduction of indigo to the New World increased its popularity, which remained high until synthetic dyes were invented.
- Leggett, William F. 1944a. Woad-Once the "Universal" Dye of Western Europe. Jour. New York Bot. Gard. 45(533): 114-118. Woad was the popular blue dye in northern and western Europe before the introduction of indigo. The plant and the processing of dye from its leaves are described. Historical notes mention Julius Caesar's discovery of the ancient Picts with bodies painted blue. Woad was used in a more traditional manner to dye clothing. By adding different mordants, a wide range of colors

could be achieved, so woad became known as the "universal" dye.

- Leggett, William F. 1944b. Vegetable Dyes of Ancient Usage. I. Saffron for Yellow. Jour. New York Bot. Gard. 45(536): 182-184. A short history of the use of saffron, including the political intrigue that often surrounded its trade. Saffron had double value as a dye and a flavoring/medicinal agent. The expense of processing saffron led to a search for cheaper yellow dyes. A full-page plate illustrates the crocus from which saffron is derived.
- Leggett, William F. 1944c. Vegetable Dyes of Ancient Usage. II. Safflower, the False Saffron. Jour. New York Bot. Gard. 45 (539): 256-257. The safflower is described and illustrated in a photograph. Use of safflower as a source of dye spread from Asia to Europe. Various processes could yield shades of yellow, orange, pink or red. It provided a cheaper alternative to saffron for yellow.

Leggett, William F. 1949. Lichens as Dye Plants. Jour. New York Bot. Gard. 50(593): 107-110. Although dyes from lichens can be used only on wool or silk, they have a long history. The purple dyes called orchils were particularly prized in Europe and later in the Americas, until replaced by synthetic colors. Many other colors can be derived from the lichens growing in northern climates, where they still are popular dye plants.

Lesch, Alma. 1970. Vegetable Dyeing. 151 Color Recipes for Dyeing Yarns and Fabrics with Natural Materials. New York, Watson-Guptill. 146 p. \$12.95. This book concentrates on techniques and explicit recipes, arranged by color. There is a chart correlating color and plants, as well as notes on what plant parts to use and where to collect them. About one third of the plants mentioned are widely distributed in the U.S. Color photographs on the endpapers show swatches of material dyed with many of the plants.

Lloyd, Joyce. 1971. Dyes from Plants of Australia and New Zealand. Wellington, N.Z., A. H. & A. W. Reed. 48 p. \$6.65. Of general interest are the history of natural dyes, notes on equipment, fabrics, mordants and directions for dyeing. There are separate chapters on various dye plant groups, using Latin names and common names and including illustrations. Many of the native plants are unfamiliar, but garden flowers, vegetables and some houseplants are included.

McGrath, Judy Waldner. 1977. Dyes from Lichens and Plants. New York, Van Nostrand Reinhold. 144 p. A book emphasizing lichen dyes, although other northern plants are included. There are instructions for preparing fibers, mordants and dyes. A list of dyes is arranged by color, then by plant name and plant part. Color illustrations show attractive examples of dyed wools.

Mairet, Ethel M. 1939. Vegetable Dyes. New York, Chemical Publishing Co. 68 p. Originally published in England, where a second edition appeared in 1952, this book features British plants. The directions for mordants and dyes include some historical information. The dye recipes are organized by color and mention the major plant sources. Additional chapters give details for dyeing silk and cotton. There is a useful glossary but, unfortunately, no illustrations.

- Mustard, Frances E. 1977. Dyeing the Natural Way. Matteson, IL, Greatlakes Living Press, Ltd. 170 p. \$4.95, pap. The bold headings and fairly large print make this book easy to read. There are notes on basic procedures, such as choosing equipment, fibers and preparing dyebaths. Details on common mordants and a list of dye plants to grow in the garden are provided. Finally, there are instructions for top-dyeing and making things with natural dyed wool. Much of the book is a catalog of plants, arranged alphabetically by common name (followed by Latin name) and illustrated by rather crude line drawings. For each plant there is a recipe for making dye and most of the colors are shown in the frontispiece.
- Oakland, Amy. 1973. On Lichen Dyeing. Handweaver and Craftsman 24(2):20. After some general information on lichen dyes, this short article focuses on orchils. There are good instructions for using these lichens to dye wool. The author notes that lichens often impart a pleasant fragrance to wool and that they are reputed to make the wool mothproof.

Pettit, Florence H. 1974. America's Indigo Blues. New York, Hastings House. 251 p. \$19.95. An excellent history of indigo dye and its use in colonial America. Indigo is without doubt the most significant plant dye and studying its history tells the reader much about dyeing in general. Black and white or color photographs illustrate the intricate textile designs achieved with indigo dye.

Ponting, K. G. 1980. A Dictionary of Dyes and Dyeing. London, Mills & Boon Ltd. 207 p. A useful reference for anyone interested in dyeing. Entries are arranged in alphabetical order and include dyes, mordants, methods, people important to the history of dyeing and dye plants. Scattered throughout is much information on the history and use of plants for dyeing, as well as some recipes.

Ratner, Barbara. 1983. Natural Dyeing in a Workshop Setting. Kansas Wildflower Soc. Newsletter 5(1): 3-13. A brief discussion of the basic techniques, including plant collection, preparation of dye baths, mordants and how to dye wool. A table of dye plants is organized into eight color groups and lists both wild and cultivated species, the plant part used and the correct mordant.

- Rice, Miriam C. 1980. How to Use Mushrooms for Color. Eureka, CA, Mad River Press. 145 p. \$8.10, pap. An unusual source of dyes is explored in this book. There are instructions for collecting and preparing mushrooms for dyeing. Drawings aid in identification and color plates show the range of shades available from mushrooms.
- Robertson, Seonaid M. 1978. Dyes from Plants. New York, Van Nostrand Reinhold. 144 p. \$8.95, pap. A complete discussion of dyes, including preparation of fibers, equipment, mordants and detailed dye recipes. There are notes on dyes of historical interest, lichen dyes and planting a dye garden. Dye plants are arranged by season of availability and illustrated with line drawings from herbals. The several indices include a list of plants arranged by color. Color plates show dyed yarns and attractive articles woven from plant-dyed wool.

Robinson, Stuart. 1969. A History of Dyed Textiles. Cambridge, MA, The MIT Press. 112 p. A book for those interested in the history of dyes and textiles. It follows the story of dyes (many from plants) from ancient times to the modern use of synthetics. There are discussions of special methods like tie-dye and batik. An appendix contains references, lists of libraries and book stores where books on dyeing are available and museums with textile collections.

- Schetky, Ethel Jane McD. (editor). 1964. Dye Plants and Dyeing. Brooklyn, Brooklyn Botanic Garden (1000 Washington Ave., Brooklyn, NY 11225). 100 p. \$3.05, pap. An excellent introduction to plant dyes, with chapters written by many experts. Subjects include history, basic steps of mordanting and dyeing, recipes for dyes and notes on plant dyes from around the world. The section of recipes is arranged by color, with a description and line drawing of each plant, plus directions for preparing the dye. Additional recipes are found in some of the articles on dyes from other countries. Black and white photographs and a few color plates illustrate techniques and results.
- Shaefer, G. 1941a. The Cultivation of Madder. CIBA Rev. 39: 1398-1406. A detailed history of the origin and use of this important source of red dye. The story is illustrated with interesting old drawings.
- Shaefer, G. 1941b. The History of Turkey Red Dyeing. CIBA Rev. 39: 1407-1416.

Describes the history and use of a secret formula to obtain from madder a very brilliant shade of red. It was valued greatly for centuries. Illustrations include old photographs and drawings.

- Sharrer, C. Terry. 1971. Indigo in Carolina, 1671-1796. South
 Carolina Hist. Mag. 72: 94-103.
 A detailed history of the growing and trading of indigo dye,
 including the economic importance of this plant. The declining
 market and rising production costs at the end of the 18th
 century brought an end to the indigo business.
- Schultz, Kathleen. 1975. Create Your Own Natural Dyes. New York, Sterling Publishing Co. 96 p. \$6.95, pap. Includes discussions of equipment, collecting plants, preparing dyes and mordants. The dye recipes are exact and there is a guide to dye sources, illustrated in color. Also included are historical notes on ancient dyes.
- Thresh, Robert and Thresh, Caroline. 1972. An Introduction to Natural Dyeing. Santa Rosa, Thresh Publications (443 Sebastopol Ave., Santa Rosa, CA 95401). 37 p. \$1.95, pap. A brief, but adequate, introduction to dyeing, with notes on mordants, supplies and preparation of fibers. Recipes for dyes are explicit. The list is arranged by color, then plant source.
- Thurstan, Violetta. 1970. The Use of Vegetable Dyes. Lewins Mead, Bristol, England, Burleigh Press. 48 p. This small book includes clear instructions for preparing mordants and wool and collecting plants. The main section of dye recipes is arranged alphabetically by common plant name. There are additional recipes for lichens and imported materials, like madder and indigo. Drawings of the plants would have been a helpful addition, but the information of well organized and concise.
- Weigle, Palmy (editor). 1973. Natural Plant Dyeing. Brooklyn, Brooklyn Botanic Garden (1000 Washington Ave., Brooklyn, NY 11225). 64 p. \$3.05, pap. Increasing interest in plant dyes and demand for more information prompted the publication of a second book in the Brooklyn series. This volume includes general discussions of dyes and mordants (including a chart of seven common mordants), how and when to collect dye plants, using lichens for dyes and a simple explanation of the chemistry of dyeing. There are more notes on plant dyes in other countries and details for setting up a dye class for children. Scattered throughout are recipes for dyes from specific plants, such as madder, pokeweed and indigo. Illustrations are provided by black and white and a few color photographs.

- Weigle, Palmy. 1974. Ancient Dyes for Modern Weavers. New York, Watson-Guptill. 128 p. \$12.95. This book includes instructions for collecting plants, preparing dyes and mordants. Recipes are provided for many familiar and some unusual plants. Dyes are arranged by color, then by plant source. Color plates on the endpapers show yarns dyed with the plants discussed.
- Young, Stella. 1979. Navajo Native Dyes. Their Preparation and Use. New York, AMS Press. 75 p. \$11.50. This reprint of a book originally published in 1940 includes general information on preparing and using plant dyes on wool. Most of the text is devoted to a catalog of dye plants of the southwestern U.S., arranged alphabetically by common name. Latin and Navajo names are provided, as well as a line drawing to help identify each species. There are brief instructions for preparing the dyes that include a wide variety of colors.