

DOWNLOAD PDF A PLANT PALETTE : SAMPLE PLANTS AND DYE COLORS

Chapter 1 : Nature's Palette: The Science of Plant Color, Lee

"With eye-catching line drawings, color photos, and a 'plant palette' of sample plants and dye colors, this attractive, user-friendly guide will delight many a do-it-yourselfer." — Booklist "An absolute must-have for fashion and textile artists, designers, students, and educators."

Two colors are all you need. This dynamic landscape uses mainly blue and white. Ann Stratton The color wheel can only take a garden so far. When it comes to pairing hues, it is certainly a helpful tool. But too often, using colors, not picking them out, stumps gardeners the most. In my experience, almost any color combination can work. I do, however, design within a few basic parameters. These self-imposed restrictions strive for the same goal: That is the secret to successfully working with color. So how do you establish order? All you need to do is keep proportions balanced, stick to a color scheme, and avoid making any sudden changes. A simple ratio lets each color look its best In my garden, I have developed a series of rooms, each with its own color scheme. While the style of the plantings and my approach to color are relatively consistent, the changing palettes make the rooms feel quite different. To avoid a busy look and to keep the eye moving, plant large groups of each color and repeat them throughout your beds. You might add a mass of pink, for instance, followed by a large grouping of white, trailed by a mass of blue, then touches of yellow as highlights. Once established, repeat this pattern—or a subtle variation of it—throughout the garden. If the beds have a great deal of depth, stagger the pattern from the front to the back. Using restraint prevents a cluttered look Holding back pays off. The author created a new area where these lilies would fit in with the existing palette photo taken at 5. Ann Stratton Sticking to a color scheme often means bypassing beloved plants for the sake of good design. The rewards of restraint far outweigh the sacrifices. We all know that an abundance of flowers does not guarantee a beautiful garden. Too much variety tends to overwhelm viewers. Limiting your color palette makes it easier to strike a pleasing balance. And for the novice who finds the infinite varieties of plants daunting or the enthusiast who shops compulsively, fewer options at the nursery might actually feel like a blessing. Let the color palette set the mood Craving peace and quiet? Go blue and white. Ann Stratton Seeking a warm welcome? Ann Stratton Yearning to entertain? Decide how you want a space to make you feel, then choose the palette accordingly. Neutral areas add diversity. Andrew Grossman There are times, of course, when self-control is unrealistic. A few years back, I became enamored of pink water lilies. At the time, my only water feature was in the blue-and-white garden, and adding the color pink was out of the question. So I rethought my space and built another pond on the other side of the house facing my front garden. Filled with pink, white, and yellow water lilies, this pond blends with my pastel entry garden because they share the same color scheme. This approach works just as well on a smaller scale, when simply cutting one or two new beds will do the trick. There are essentially two approaches to designing a transitional space. The tan gravel patio that stretches along my side yard creates some necessary breathing room between the pastel front garden and the hot-color back garden. The pale yellows, silvers, and hot pinks planted around the patio intentionally flatter both gardens equally. Meanwhile, the checkerboard patio that connects the hot-color garden to the blue-and-white garden serves the same purpose as the gravel patio. Its geometric patches of golden thyme offer a neutral color palette that gently leads the viewer from one area to another. These visually quiet spaces are as important as the more colorful ones.

DOWNLOAD PDF A PLANT PALETTE : SAMPLE PLANTS AND DYE COLORS

Chapter 2 : Planting a Dye Garden to Make Your Own Natural Dyes | Foodie Underground

plant palettes for ornamental landscapes and gardens will be more successful when they are comprised of a diverse range of species having similar habitat adaptations. This section presents a series of horticultural palettes for different landscape and.

June 5, Color Palette Combinations in the Garden Entirely from the garden, this bouquet is not only a stylish palette, it is intensely fragrant - rich with the scent of Heliotrope, Sweet Peas and Stock. The color wheel here is broad and deep, and luminosity, transparency and saturation happens not in Photoshop, but with the sun. We all have favorite colors, and color taste is a very, personal thing, but there are some foundational rules to consider, rules that are hard, if not impossible to work around. The most important rule about color in the garden, is to accept your environment first, most likely, it exists in multitudes of green. Choosing a color palette combination for a garden is completely different than choosing color for paint or interior design. After all, plants flower for one purpose only - sex. They are designed to attract insects, so the built in features are closer to a video game or a pixel than you might imagine. Foliage and dark shadows dominate the garden, and color, is precious, often appearing only as specs and dots in the landscape. Like pixels on a screen, nature uses color to attract, often with added features such as luminosity, refraction and layering of transparent tints to achieve a special effect. The above image demonstrates that sometimes, there is something just "right" about certain combinations. Wedding blogs and hip stylish florist school sites know design quite well, but they also can manipulate images to appear, well, prettier than they actually are. Gorgeously yummy, but not very realistic when viewed in real life. I know many of you want amazingly coral, pink, peach and buff - when in reality, this rarely is achievable outside of photoshop and creative lighting. Few of us live in a magazine photoshoot or a wedding blog with a handy color shift feature. But there are ways to add new and more interesting color palettes to you garden containers, new color ideas for your wedding, or new color palette combinations for the garden. If you want more posts on my color theory and plants, let me know - I think a little too much about it sometimes! But I do know my color theory, I work on a Wacom screen all day picking palettes for design projects, ranging from apps to print and product, and I am a pretty handy horticulturist, so maybe I can offer some sensible help here. A few basic things to remember when buying plants based on color - if may have already discovered that seed catalogs and nursery catalogs are terribly misleading. Of course they assume that you already know that the two plants will bloom at different times of the day, and year, and that the seasons will be off. There is just SO much to know. Heliotrope - *Heliotropium arborescens* seed sown February 20th - Swallowtail Gardens. Society Garlic - *Tulbaghia violacea* 6.

DOWNLOAD PDF A PLANT PALETTE : SAMPLE PLANTS AND DYE COLORS

Chapter 3 : Growing with plants: Color Palette Combinations in the Garden

This year, put aside a portion of your garden, that you normally dedicate to flowers and herbs, to plant a rainbow of natural dye plants. Many common medicinal herbs are also traditional dye plants.

Vinca Impatiens Besides true annuals, there are tender perennials that are often grown as annuals in climates where they are not hardy. If you are looking for instant gratification, buying a few flats from the nursery will be best. Purchase annual seeds on Amazon. If you want a cohesive design face it, we all know that looks better, here are a few essential tips for designing with annuals: Before you get in your car to go plant shopping, evaluate the areas in your garden where you want annuals. Measure the size of the spaces, know the sun and shade patterns throughout the day, think about how the areas will be viewed and take stock of what plants are nearby. Not all plants need to have flowers to be great additions to the garden. Color combinations can complement, contrast or match. Too much contrast can be jarring, and too much of the same color can be monotonous. Use several colors in a limited palette that work well together for a cohesive and pleasing look. Repeat colors and forms to lead the eye through the garden. Use a variety of textures to give the garden energy. Too many plants with either a fine or a bold texture can be boring to look at. Annual Violas Discover 8 viola varieties in colors ranging from lilac blue to ruddy orange. Sweet Peas Get tips for growing, harvesting and arranging these delicate annual flowers. Picture-Perfect Petunias Find out how to grow petunias that will be the envy of your neighborhood. The Blackest Flower Discover how this dark petunia can complement contemporary garden styles. Begonias Learn about how this tropical plant can be used indoors or in shaded summer beds. Annuals come in all shapes, sizes and colors. Some produce amazing flowers, while others are all about striking foliage. Take a look at these popular annuals to decide which plants to try in your own garden Reader Questions We have just moved from Baltimore to this land of mild winters. What kinds should I try? See answer I filled a large flower bed with the new Wave petunias last year, and they made a terrific show at first. But near the end of the summer they just quit. The plants still looked healthy, but the flowering stopped completely. Get more gardening advice. Free Weekly Newsletter Sign up for weekly gardening inspiration and design tips Join thousands of readers, from avid to casual gardeners, for plant information, gardening solutions, and design inspiration to make the most of your outdoor spaces.

DOWNLOAD PDF A PLANT PALETTE : SAMPLE PLANTS AND DYE COLORS

Chapter 4 : How Light Affects Plant Growth | Science project | racedaydvl.com

Pantone color palette garden designs can also be applied to your outdoor living spaces and for any non-plant elements in the garden. For instance, paint your terracotta pots for an easy change on your patio.

Watch these brief but informative educational videos to see some of our greatest planting features in action – and add efficiency and speed to your workflow. See all Planting Power Tip videos Is it customizable? Customize your plant symbols, label styles, leaders, layer and line colors, fonts, title blocks, plotting preferences – you name it. We make it easy to apply your standards to the entire design process, from drafting to presentation to construction documents. Set your preferences Use our Preferences screens to customize every layer and every color, and dial in your text settings. Customize your plant codes, callout leader styles, number styles, and currency symbols for cost estimates. Create custom columns for your plant schedules, choose to label in Model Space or Paper Space – and much more. Each style applies your chosen standards to specific applications of text in your drawings - like plant labels and schedule text. Set each Text Style to your chosen font, point size, width, and more. That means you can easily edit any of our plant symbols by opening and editing the DWG file that contains the linework for that symbol. Want to use your own symbols? Just draw them and use our Save Block tool. Your plant symbol is saved right into our software, along with a thumbnail slide, for easy viewing and access from within a dialog box in CAD. Plant labels Like our plant symbols, our plant label styles are blocks sourced from DWG drawings that we provide with your installation – one for the left version of a label, and one for the right. Have your own hatch pattern you want to use? Layers Layers and layer settings are the most basic elements of customization in CAD. We make it easy to control your layer settings. Our General Preferences screen includes an Edit button that allows you to revise the name, color, linetype, and lineweight of each of your layers. It also includes a Block Colors button that allows you to customize all colors used by AutoCAD as index colors for plotting. Extensive database of trees, shrubs, and groundcovers. Create your virtual plant palette from a list of more than 20, plants while still working in AutoCAD. Our searchable plant library includes practically every genus, species, and variety you can think of. You can add it. Wiki-based plant data is built right into the software! Any user can add any plant variety – including climate and character data – to our wiki-style database. Pick a plant genus, species, and variety from our vast database of trees, shrubs, and groundcovers. You can add it and use it right away. Add your plant to your palette with a click. All plants in your palette are consolidated into a single dialog box, organized by four plant categories – Trees, Shrubs, Shrub Areas, and Groundcovers. The plants in each category are alphabetized by genus, allowing you to find each one quickly when you want to edit or place it. Once a plant is in your palette, you can assign it with data. So many ways to place plants! Pick your plant, and click to place it. Want an even quicker option? Our specialized tools give you numerous methods for placing multiple plants in one go. Watch just a few in action: Just pick a plant, and click to place it. Fill a closed polyline with a groundcover hatch instantly – or draw your groundcover area on the fly. Those are the basics, but we offer much, much more. Copy plants along a path Instantly draw a line or arc of trees or shrubs, or snap a row of plants to an existing polyline in your drawing. First set a specific spacing pattern between the plants, including the exact number of feet or meters between them. Then place a uniform row of plants. Copy along Polyline Select a polyline in your drawing, such as the border of a pathway or planter. A perfect row of plants is snapped exactly to that polyline. Copy along Line Drag your cursor in any direction. A line of plants will follow, with the exact spacing you set. Copy along Arc Draw an arc, set the midpoint, and place a precisely spaced arc of plants. First, place the tree or shrub of your choice. Then type T for paint. Paint Mode is engaged! You can now move your mouse around the area you want to fill with plants. You can click to set the angle, type the angle in degrees such as 45 , or click a polyline in your drawing to snap the angle to the same angle as that polyline. Array tools Copy any plant in your drawing, and place duplicates in a preset triangular or square pattern. As with our other awesome tools for placing plants, you can

DOWNLOAD PDF A PLANT PALETTE : SAMPLE PLANTS AND DYE COLORS

snap the cursor crosshairs to a specific angle when setting your array. Match Properties Change one plant into another, including all attached data, with a click. Match Properties is a great tool for switching out one plant for another to correct errors or fulfill revision requests. Match Plant Grab a plant quickly, and copy it wherever you want – including its symbol and all attached data. Match Plant is a great way for copying and pasting trees and shrubs, as well as grabbing a groundcover and applying it quickly to any closed polyline area. Plant Shotgun Where to start? This awesome tool combines a ton of planting features into one, with the help of on-the-fly single-key keyboard commands. Set a number of plants to place, from 1 to Toggle between plant patterns of the same number, plants in your palette, or the amount of space between plants. Rotate a group of plants for better fitting as you place them. Snap plants to a crosshair angle, copy plants along a line or arc, or even enter our Paint Mode tool. Rectangular spacing provides a uniform look and might be required by some clients, but this pattern can also look contrived and leave too much space between plants. Triangular spacing is a bit more natural looking, but it can also drive up costs by requiring an excessive number of plants. The result is a more natural-looking pattern that requires fewer plants. How easy is it to learn? Need a little help? We strive to make CAD-based landscape design simple, intuitive, and fun.

DOWNLOAD PDF A PLANT PALETTE : SAMPLE PLANTS AND DYE COLORS

Chapter 5 : Biological pigment - Wikipedia

[Lee] presents a fascinating description of the impact and importance of plants to people. The book is beautifully illustrated and includes topics ranging from the nature and distribution of plant pigments in various plant parts (leaves, flowers, fruits, stems, and roots) to the use of plants to color skin as well as fabric.

Steve and Cathy share great advice and luscious photographs to help you plan your garden color scheme. Color is often the most prominent factor a homeowner or garden designer will consider when reinventing or sprucing up their landscape. Good garden design involves knowing how to combine colors and textures so the final product is pleasing to the eye. Most color wheels only contain 12 colors, while in nature there are a seemingly endless numbers of shades and tones of these. When choosing color combinations for your garden, you will want to select either harmonious or contrasting colors. Harmonious or analogous colors are found next to each other on the color wheel and share similar values. Contrasting or complementary colors are opposite each other on the color wheel and share no values or color wavelengths like red is to green or orange is to blue. Why not apply this same technique in your garden design to create the feeling or atmosphere you want? Some colors, such as orange and red, called warm colors, make us feel "you guessed it" warmer. While others colors, such as blues and green, can achieve a feeling of coolness. If you plant compatible colors such as pastels you create a peaceful mood. Analogous colors different shades of one or two colors adjacent to each other on the color wheel will create a calming sense, while strong and contrasting colors will induce energy and excitement. Strong colors catch the eye of the viewer and draw them in. One bright pot of geraniums at your front door will feel welcoming; however, too many bright colors scattered throughout your yard can cause confusion for the eye. Some gardeners and homeowners have developed certain prejudices about colors. Ironically, these became her favorite plants. The grouping of colors is what you need to choose most carefully. A magenta bloom may look fine planted near other flowers that are purple or pink but hideous when combined with blooms of red, orange, or yellow. Keep in mind that the color in your garden is not just limited to the plant material. Be sure to consider your hardscape colors rocks, colored concrete and retaining-wall materials and especially the color of your home. Consider how your plants will blend or contrast with their surroundings. For example, when selecting flowers to plant next to red bricks or a redwood fence, white or yellow flowers would be good choices where as red flowering plants would simply fade into their surroundings. Many gardeners plant their flower beds to accent the exterior color of their home. If your home is tan with green trim, a natural flower bed choice to complement these colors would be red blossoms. Dramatic color combinations will give your garden and home a distinctive look. Recently, we designed a garden for a terra-cotta colored house. These blooms popped against the earth-toned terra cotta walls where something like red poppies or azaleas would have been lost in their background. Shaded areas of the garden can be brightened by using light-colored annuals such as white, light pink, or pale blues. In the shade, dark colors tend to get swallowed up unless they are surrounded by a lighter color to provide them with some contrast. For more information on garden color and color schemes in the meantime try: They share with us their advice and expertise on all areas of garden and landscape.

Chapter 6 : Annual Flowers and Plants | Garden Design

Good garden design involves knowing how to combine colors and textures so the final product is pleasing to the eye. It takes some practice and experience to develop an eye for color, but a good place to start is by studying an artist's color wheel.

Space-filling model of the chlorophyll molecule. Anthocyanin gives these pansies their purple pigmentation. The primary function of pigments in plants is photosynthesis, which uses the green pigment chlorophyll along with several red and yellow pigments that help to capture as much light energy as possible. Other functions of pigments in plants include attracting insects to flowers to encourage pollination. Plant pigments include a variety of different kinds of molecule, including porphyrins, carotenoids, anthocyanins and betalains. All biological pigments selectively absorb certain wavelengths of light while reflecting others. Chlorophyll is the primary pigment in plants; it is a chlorin that absorbs yellow and blue wavelengths of light while reflecting green. It is the presence and relative abundance of chlorophyll that gives plants their green color. All land plants and green algae possess two forms of this pigment: Kelps, diatoms, and other photosynthetic heterokonts contain chlorophyll c instead of b, while red algae possess only chlorophyll a. All chlorophylls serve as the primary means plants use to intercept light in order to fuel photosynthesis. Carotenoids are red, orange, or yellow tetraterpenoids. During the process of photosynthesis, they have functions in light-harvesting as accessory pigments, in photoprotection energy dissipation via non-photochemical quenching as well as singlet oxygen scavenging for prevention of photooxidative damage, and also serve as protein structural elements. In higher plants, they also serve as precursors to the plant hormone abscisic acid. Plants, in general, contain six ubiquitous carotenoids: Lycopene is the red pigment responsible for the color of tomatoes. Other less common carotenoids in plants include lutein epoxide in many woody species, lactucaxanthin found in lettuce, and alpha carotene found in carrots. Algal phototrophs such as dinoflagellates use peridinin as a light harvesting pigment. While carotenoids can be found complexed within chlorophyll-binding proteins such as the photosynthetic reaction centers and light-harvesting complexes, they also are found within dedicated carotenoid proteins such as the orange carotenoid protein of cyanobacteria. Anthocyanins literally "flower blue" are water-soluble flavonoid pigments that appear red to blue, according to pH. They occur in all tissues of higher plants, providing color in leaves, plant stem, roots, flowers, and fruits, though not always in sufficient quantities to be noticeable. Anthocyanins are most visible in the petals of flowers of many species. Like anthocyanins they are water-soluble, but unlike anthocyanins they are synthesized from tyrosine. This class of pigments is found only in the Caryophyllales including cactus and amaranth, and never co-occur in plants with anthocyanins. A particularly noticeable manifestation of pigmentation in plants is seen with autumn leaf color, a phenomenon that affects the normally green leaves of many deciduous trees and shrubs whereby they take on, during a few weeks in the autumn season, various shades of red, yellow, purple, and brown. These pigments are present throughout the year, but the red pigments, the anthocyanins, are synthesized de novo once roughly half of chlorophyll has been degraded.

Pigments in animals[edit] Pigmentation is used by many animals for protection, by means of camouflage, mimicry, or warning coloration. Some animals including fish, amphibians and cephalopods use pigmented chromatophores to provide camouflage that varies to match the background. Pigmentation is used in signalling between animals, such as in courtship and reproductive behavior. For example, some cephalopods use their chromatophores to communicate. The photopigment rhodopsin intercepts light as the first step in the perception of light. Skin pigments such as melanin may protect tissues from sunburn by ultraviolet radiation. However, some biological structures in animals, such as heme groups that help to carry oxygen in the blood, are colored as a result of their structure. Their color does not have a protective or signalling function.

Diseases and conditions[edit] A variety of diseases and abnormal conditions that involve pigmentation are in humans and animals, either from absence of or loss of pigmentation or pigment cells, or from the excess production of

pigment. Albinism is an inherited disorder characterized by total or partial loss of melanin. Humans and animals that suffer from albinism are called "albinistic" the term "albino" is also sometimes used, but may be considered offensive when applied to people. Lamellar ichthyosis, also called "fish scale disease", is an inherited condition in which one symptom is excess production of melanin. The skin is darker than normal, and is characterized by darkened, scaly, dry patches. Melasma is a condition in which dark brown patches of pigment appear on the face, influenced by hormonal changes. When it occurs during a pregnancy, this condition is called the mask of pregnancy. Pigments in marine animals[edit] Carotenoids and carotenoproteins[edit] Carotenoids are the most common group of pigments found in nature. Animals are incapable of making their own carotenoids and thus rely on plants for these pigments. Carotenoproteins are especially common among marine animals. These complexes are responsible for the various colors red, purple, blue, green, etc. There are two main types of carotenoproteins: Type A and Type B. Type A has carotenoids chromogen which are stoichiometrically associated with a simple protein glycoprotein. The second type, Type B, has carotenoids which are associated with a lipo protein and is usually less stable. While Type A is commonly found in the surface shells and skins of marine invertebrates, Type B is usually in eggs, ovaries, and blood. The colors and characteristic absorption of these carotenoprotein complexes are based upon the chemical binding of the chromogen and the protein subunits. For example, the blue carotenoprotein, linckiacyanin has about carotenoid molecules per every complex. Carotenoproteins that are within the photosynthetic structure are more common, but complicated. Pigment-protein complexes that are outside of the photosynthetic system are less common, but have a simpler structure. For example, there are only two of these blue astaxanthin-proteins in the jellyfish, *Velella velella*, contains only about carotenoids per complex. For example, the crustochrin has approximately 20 astaxanthin molecules bonded with protein. When the complexes interact by exciton-exciton interaction, it lowers the absorbance maximum, changing the different color pigments. In lobsters, there are various types of astaxanthin-protein complexes present. The second one is crustochrin max, a yellow pigment which is found on the outer layer of the carapace. Lastly, the lipoglycoprotein and ooverdin forms a bright green pigment that is usually present in the outer layers of the carapace and the lobster eggs. The main role of the tetrapyrroles is their connection in the biological oxidation process. Tetrapyrroles have a major role in electron transport and act as a replacement for many enzymes. It is produced as the amino acid tyrosine is converted into melanin, which is found in the skin, hair, and eyes. Derived from aerobic oxidation of phenols, they are polymers. There are several different types of melanins considering that they are an aggregate of smaller component molecules, such as nitrogen containing melanins. There are two classes of pigments: Eumelanins are usually found in the skin and eyes. Several different melanins include melanoprotein dark brown melanin that is stored in high concentrations in the ink sac of the cuttlefish *Sepia Officianalis*, echinoidea found in sand dollars, and the hearts of sea urchins, holothuroidea found in sea cucumbers, and ophiuroidea found in brittle and snake stars. These melanins are possibly polymers which arise from the repeated coupling of simple bi-polyfunctional monomeric intermediates, or of high molecular weights. The compounds benzothiazole and tetrahydroisoquinoline ring systems act as UV-absorbing compounds. Bioluminescence[edit] The only light source in the deep sea, marine animals give off visible light energy called bioluminescence, [15] a subset of chemiluminescence. This is the chemical reaction in which chemical energy is converted to light energy. Considering that a large proportion of the visible light spectrum is absorbed before reaching the deep sea, most of the emitted light from the sea-animals is blue and green. However, some species may emit a red and infrared light, and there has even been a genus that is found to emit yellow bioluminescence. The organ that is responsible for the emission of bioluminescence is known as photophores. This type is only present in squid and fish, and is used to illuminate their ventral surfaces, which disguise their silhouettes from predators. The uses of the photophores in the sea-animals differ, such as lenses for controlling intensity of color, and the intensity of the light produced. Squids have both photophores and chromatophores which controls both of these intensities. Another thing that is responsible for the emission of bioluminescence, which is evident in the bursts of light that jellyfish emit,

DOWNLOAD PDF A PLANT PALETTE : SAMPLE PLANTS AND DYE COLORS

start with a luciferin a photogen and ends with the light emitter a photagogikon. Jellyfish use this as a defense mechanism; when a smaller predator is attempting to devour a jellyfish, it will flash its lights, which would therefore lure a larger predator and chase the smaller predator away. It is also used as mating behavior. In reef-building coral and sea anemones, they fluoresce; light is absorbed at one wavelength, and re-emitted at another. These pigments may act as natural sunscreens, aid in photosynthesis, serve as warning coloration, attract mates, warn rivals, or confuse predators. Chromatophores[edit] Chromatophores are color pigment changing cells that are directly stimulated by central motor neurons. They are primarily used for quick environmental adaptation for camouflaging. The process of changing the color pigment of their skin relies on a single highly developed chromatophore cell and many muscles, nerves, glial and sheath cells. Chromatophores contract and contain vesicles that stores three different liquid pigments. Each color is indicated by the three types of chromatophore cells: The first type is the erythrophores, which contains reddish pigments such as carotenoids and pteridines. The second type is the melanophores, which contains black and brown pigments such as the melanins. The third type is the xanthophores which contains yellow pigments in the forms of carotenoids. The various colors are made by the combination of the different layers of the chromatophores. These cells are usually located beneath the skin or scale the animals. There are two categories of colors generated by the cell " biochrome and schematochromes. Biochromes are colors chemically formed microscopic, natural pigments. Their chemical composition is created to take in some color of light and reflect the rest. In contrast, schematochromes structural colors are colors created by light reflections from a colorless surface and refractions by tissues. Schematochromes act like prisms, refracting and dispersing visible light to the surroundings, which will eventually reflect a specific combination of colors. These categories are determined by the movement of pigments within the chromatophores.

DOWNLOAD PDF A PLANT PALETTE : SAMPLE PLANTS AND DYE COLORS

Chapter 7 : Garden Color Schemes – Plant a Palette in Your Yard

With eye-catching line drawings, color photos, and a plant palette of sample plants and dye colors, this attractive, user-friendly guide will delight many a do-it-yourselfer. --Whitney Scott.

If you use these links to buy something we may earn a commission. Planning your natural dye garden: This year, put aside a portion of your garden, that you normally dedicate to flowers and herbs, to plant a rainbow of natural dye plants. Many common medicinal herbs are also traditional dye plants. Wean yourself from chemical colors and imported, cookie-cutter fashion. Natural dyes are beautiful and aesthetically pleasing. Each natural dye color is made up of several molecules of colour. Where chemical dyes are usually one color molecule or just two colour molecules, natural dyes contain many pigments in each color that our eyes see. We say it clashes. Not so with natural dyes. All natural dyes go together because of the many color molecules in each pigment. Each plant or insect colour has several chromophores that make up the color that we see. The chromophores that adhere to your cloth can be shifted by changing the pH of the solvent that you extract the colour with or by adding mordant salts or metals to the cloth to give the dye chromophores receptor sites on the textiles. The mordant salts include alum, calcium, magnesium, iron or copper, among the mordants that are nontoxic and safe to use at home. Aim to have the three primary colours – blue, red, and yellow – represented in your garden in abundance. From these the full rainbow of colours will be available to you. By planning for several yellows, you will also have many greens and oranges to choose from. In my cold, short season climate, many traditional dye plants are inaccessible to me unless I want to buy imported dye stuffs like cochineal, an insect dye from that female scale insect that breeds on the prickly pear cactus. However, by embracing a bioregional palette and creating within that limitation, inspiration and creativity abound. Blue In my climate, woad *Isatis tinctoria* will grow very well. It is impervious to summer frost. Its long tap root and extensive root system, allows it to thrive when temperatures soar in July and August, and yet continue to grow extra leaves and produce blues until it is buried by snow in November. Woad is a biennial and its second year plant sends up broccoli-like stems which are edible and quite hot, and mustard-like – it is a starvation food-source. One plant will produce thousands of seed, and once the flower heads open the plant is almost impossible to remove from your soil. If you leave it to go to seed, please be diligent to pull out all volunteers. Be responsible if you let it go to seed. There are actually several subspecies of woad. *Isatis indigotica* is frost sensitive and will bolt if subjected to colder temperatures during its first year. Every colour comes from woad, a prolific and generous dye plant. Red In my climate there are several reds to choose from. The commercial red that is used by traditional dyers is Madder. Madder requires deep, rich soil and a long, warm season to produce seed. However, the dye stuff is found in the root and the plant may be propagated through root cuttings, so it is not necessary to have seed. However, madder plants need to grow for 4 to 6 years and develop pencil thick roots to produce a strong dye. In a colder climate you will want to have 4 gardens beds, deeply tilled and amended with composted manure, for your madder garden. Madder plants themselves make an interesting ground cover. They sprawl across the ground with their Velcro like leaves, hiding the potential richness of colour beneath the soil. Madder likes calcium so the bed should be well limed before planting. Goats and Cows that eat madder plants give pink milk, and if they have a steady diet of madder their bones will dye orange. Bedstraw or cleavers is another plant with red dye in the roots. It grows wild in my area. The leaves look like a daintier version of madder, with a square stem and Velcro like leaves. You will need a lot more roots for your dye, but bedstraw is so prolific that taking a few plants will leave much more to produce next year. Bed-straw was used in Scotland and Northern Europe as a red dye for home use, until the commercialization of chemical dyes. It will seed prolifically, and form a bank of many stems in your garden. It can be cut back for dyeing several times during the growing season, before the flowers are allowed to set seed. You can use just the flower heads or both flower heads and stems. The perennial will last many seasons if cut back to ground before the leaves begin to form in the Spring. Yarrow is another prolific natural dye plant as

DOWNLOAD PDF A PLANT PALETTE : SAMPLE PLANTS AND DYE COLORS

well as a medicinal herb. Yarrow is a perennial that produces a flowering head with many flowers on each stem. There are several colour varieties to add interest to your garden. Check the zone requirements in your seed catalogue before ordering. While wild yarrow is hardy to zone 2, some of the recent colour varieties need a much warmer climate. To dye with yarrow cut the flowering tops off just above the leaves and leave the plants in the ground for next season. They will reliably produce year, after year even in poor conditions and in rocky soil. Golden Rod dyed and felted scarves by Heike and Aki. Canadian Golden Rod is a prolific plant that can be harvested every season during flowering, once the plants are established. It will grow 3 to 4 feet in height with a spread of 3 feet, when planted in rich soil in a sunny location. To use for dyeing harvest the flowering tops. Its is a rich, warm, golden yellow. To save the color for future dyeing, extract the dye in alkaline water and freeze the strained dye bath. Dried plant material loses a lot of its chromophores when stored. Golden rod gives a warm golden yellow that is reliably colorfast and washfast. It is valuable because it will produce a reliable and colourfast yellow even after the plants have been dried for future use. The seed is extremely tiny. Broadcast it in the prepared bed and firm in, leaving it on the soil surface to grow for two years. The first year it will form a rosette with fine, oblong leaves and a deep tap root. In the second year it sends up several long stems that will grow a great many fine flowers. You wait until the flowers have set seed and the seed is almost mature before harvesting. I dry it by turning the plant upside down in a paper bag and hanging it in an airy room. Once dry the seeds can be collected. And the leaves and stems of the plant used for a rich, yellow dye bath. Mullein is a biennial that forms a woolly rosette in its first year and sends up a towering, candle-like flowering stalk the second year. You dye with the flowering stalk. The mullein stem has many fine hairs that become airborne when you handle it and cause irritation. Wear gloves and a mask when tearing it apart for dyeing to protect your hands and lungs. Mullein is especially helpful for dyeing cotton, because it is a natural source of tannins as well as yellow dye stuffs. It can be dried for tannins but should be used fresh for yellow dyes. It helps to add a bit of washing soda to the extraction vat. In Turkey the natural dyers give mullein dyed wool an after bath in iron to shift the colour to tan, brown, and even black, for carpet weaving. Coreopsis gives a warm, sunny orange, as well as yellow to the dye bath. Its a prairie wild flower, that grows well if protected from frost. Take the flower heads for your dye bath and use them fresh. The first dip in the dye vat gives a deep, warm orange. Put a second and third skein in once the orange is removed, and you will get paler shades of yellow. The plant will grow in a shorter season area. This plant is iffy for me depending on how long I can keep it protect from temperatures below freezing. This is not an exhaustive list. Many other plants can be used as natural dye sources for yellows. Barks from tree prunings, leaves, and needles are all potential sources of natural dyes. Soils rich in iron can also be used for dyeing. There is an abundance of dye material in nature just waiting for you to go for a walk in the woods. But having a few color sources close to home in your garden means that you are more likely to use them. A world of natural pigments awaits your creative expression, and it can be as close as your garden.

DOWNLOAD PDF A PLANT PALETTE : SAMPLE PLANTS AND DYE COLORS

Chapter 8 : INPAWS : Native Plant Palettes

You are not limited to plants and mulch when implementing a landscape color scheme. In this area of the yard, the homeowner was aiming for a gold-blue landscape color scheme. The ceramic planter shown in the photo helped with the blue component.

Life Science Thank you for your input. The relationship between light and plant growth can be demonstrated by exposing leaves to various colors of light. Light supplies the power to carry on photosynthesis, the food-making process in leaves. But the spectrum of light most utilized by a leaf is limited to three distinct colors, red, blue and yellow. For example, leaves appear green because green is the color most leaves reflect rather than absorb and use. Color of light Dependent Variable: Plant height Control Variables: Same size soybean plants, fertilizer, soil, water, potting soil, colored filters, 10 gallon aquarium tank. Plant four soybean plants of the same size in an aquarium containing 5" of well moistened potting soil. Apply the recommended dosage of fertilizer. Place a colored filter tent over each plant. One filter should be clear. Use blue, yellow, and red film for the other filters. Place the aquarium in direct sunlight. Keep in the same location during the experiment and water daily. Measure each plant every day and record your findings in a notebook. Be sure to measure from the bottom of the aquarium and not the surface of the potting soil. All the materials for this project are available locally. You can obtain a 10 gallon aquarium from a pet shop. Office stores sell colored transparency sheets. Most garden supply shops sell soybean seeds, potting soil and plant fertilizer. Be sure to germinate your soybean plants to a height of 4" before beginning your experiment. Disclaimer and Safety Precautions Education. In addition, your access to Education. Warning is hereby given that not all Project Ideas are appropriate for all individuals or in all circumstances. Implementation of any Science Project Idea should be undertaken only in appropriate settings and with appropriate parental or other supervision. Reading and following the safety precautions of all materials used in a project is the sole responsibility of each individual.

Chapter 9 : Planting Features

The dye is extracted from the roots of this plant and render rose madder, which is a red dye pigment. Weld The seeds contain most of the dye, which yields a yellow pigment.