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VIRGIN ISLANDS HOME LAWNS

Examples of described grasses on St. Croix.

UNIVERSITY OF THE VIRGIN ISLANDS
Cooperative Extension Service · D. S. Padda, Director · St. Croix, U.S. Virgin Islands

VIRGIN ISLANDS HOME LAWNS

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VIRGIN ISLANDS HOME LAWNS

INTRODUCTION

It is difficult to imagine what homes in the Virgin Islands would look like without lawns. They provide uniformity and beauty to our overall landscape, help control erosion and dust, and reduce noise and glare. Lawns have a significant overall cooling effect on the environment. And, of course, they provide surfaces for our youth to play on.

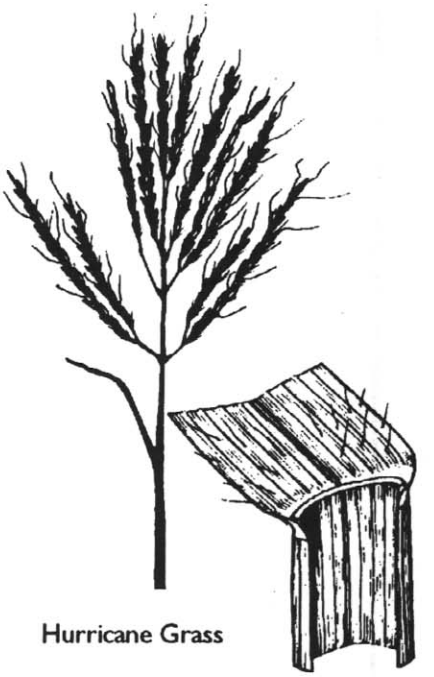
To have a good lawn you must consider: 1) choice of grasses; 2) construction of the lawn - how the seedbed is prepared; 3) planting the lawn - how and when it should be planted, and 4) maintenance, including fertilizing, mowing, watering, and controlling weeds, diseases and insects.

LAWN GRASS SELECTION

The correct species and variety for your lawn should be selected carefully. This requires knowing where the lawn will be used, how it will be used, and what appearance and maintenance level will be acceptable. Because each lawn grass species has good and bad features, learn the strengths and weaknesses of each of the species to choose the one best suited to our climatic and soil conditions.

The following are descriptions of some common lawn grasses adaptable to Virgin Islands conditions. Included are statements on how they grow, where they grow best, their requirements, and how to establish them.

It should be noted that planting material for vegetatively propagated lawn grasses (sod or plugs) is not easily available in the Virgin Islands.



Hurricane Grass

HURRICANE GRASS *(Bothriochloa pertusa)*

This is by far the predominant lawn grass in the Virgin Islands. It is a hardy, aggressive, native grass which stands up exceptionally well to wear. The agronomic characteristics of hurricane grass have not been thoroughly researched, but practical experience with it throughout the territory suggests it performs satisfactorily and is easily established by seeding. It has been considered a successful turf grass at the University of the Virgin Islands campuses, the golf courses on St. John (Caneel Bay) and Virgin Gorda (Little Dix Bay).

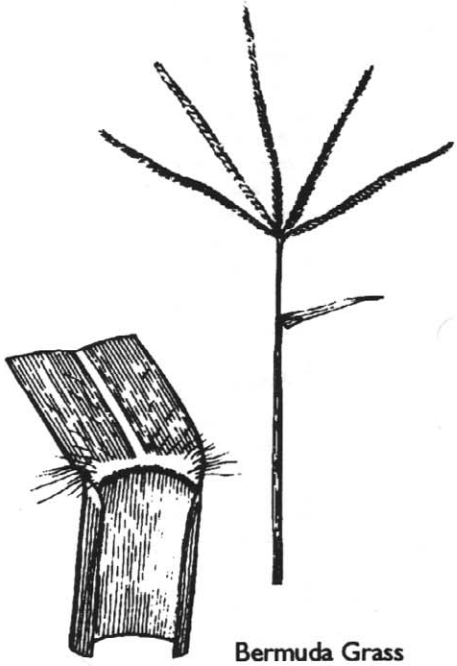
Hurricane grass has a dense thatch and apparently is drought, salt, disease and insect resistant. It does not tolerate dense shade, but persists well in moderate shade if regularly mowed. The main disadvantage of Hurricane grass is that frequent mowing is required to remove unsightly seed heads.

BERMUDA GRASS *(Cynodon dactylon)*

This grass is moderately tolerant of heat, poor soil, alkalinity, salt and heavy traffic. It is fairly tolerant to dry conditions. Insect and disease resistance are generally good. However, Bermuda grass also requires frequent mowing and nitrogen fertilization. It needs full sun for best performance and spreads rapidly.

Common Bermuda grass makes a fairly presentable lawn when given reasonable care. This grass is established by seeding. Common Bermuda grass needs to be mowed often to a 1-inch height to prevent formation of seed heads.

Hybrid Bermuda grasses are often used for high-quality lawns. They are only established vegetatively so they must be sodded or planted from sprigs or plugs spaced 6 to 12 inches apart. The hybrids also require more nitrogen fertilization. Tifway, Tiflawn, and Tif green are three of the most common hybrid varieties.



Bermuda Grass

BAHIA GRASS *(Paspalum notatum)*

This is a low-growing perennial that spreads by short heavy runners. It is established by seeding. In areas of poor soils bahia grass will make a reasonable substitute for Bermuda grass. It tolerates little salt but is relatively free from insects and diseases, and is somewhat drought and wear resistant. This grass needs to be mowed weekly during the rainy season and every other week during the dry season to 2 inches high with a sharp mower to cut off tough seed heads.

ZOYSIA GRASS (*Zoysia* species)

If you want a smooth, even-textured lawn that is really tough, this is the grass for you. It withstands wear, tolerates partial shade and is subject to little disease and insect damage. It gets by on normal watering, does not take over planted beds, and is thick enough to crowd out weeds and other grasses. However, there are two drawbacks: Zoysia grass is difficult and slow to establish by seeding. Plugs may take at least a full year to cover an area completely, even when planted close (6 inches apart). This grass needs to be mowed about 3/4 to 1-inch high.

ST. AUGUSTINE GRASS (*Stenotaphrum secundatum*)

This grass thrives in both sunny and partial shady locations. It makes a thick sod, is coarse in texture, and tolerates traffic fairly well. Best growth is with ample water in a fertile, well-drained soil. But St. Augustine grass is hardy and will persist in salty soils.

Unfortunately, St. Augustine grass is susceptible to brown patch, heat spot, chinch bugs and white grubs. This grass is not easily established by seeding; you will need to sod or plant from sprigs or plugs at 12 inches apart. Mow to a height of 2 or 3 inches. St. Augustine eventually gets very thick and must be dethatched on a regular basis.

DESCRIPTIONS OF SOME WARM SEASON LAWN GRASSES

Grass Variety	Method of Establish-ment	Rate of Spread	Drought Tolerance	Salt Tolerance	Shade Tolerance	Wear Resistence	Texture	Maintenance
Hurricane (Local)	Seed	Rapid	Very Good	Very Good	Fair	Very Good	Fine	Heavy
Bermuda (Common and Improved)	Seed, Vegetative	Rapid	Very Good	Very Good	Poor	Very Good	Fine	Heavy
Bahia	Moderate	Moderate	Good	Poor	Good	Good	Medium - Course	Light
St. Augustine	Vegetative	Moderate	Good	Very Good	Very Good	Fair	Medium - Course	Heavy
Zoysia	Vegetative	Very Slow	Fair	Very Good	Good	Very Good	Medium - Fine	Heavy
Centipede	Seed	Moderate	Poor	Poor	Good	Poor	Medium - Course	Light

LAWN SITE PREPARATION

Proper preparation of the lawn planting site is very important in establishing a quality lawn. It would be great if topsoil were always stockpiled at the start of construction and then replaced when the house is finished. Unfortunately, many sites are stripped bare and you end up with poor soil, or the soil may have been poor to begin with. This may be the case in certain areas in the V.I. where caliche is prevalent. In these extremes cases, it may be advisable to bring in good quality topsoil. Usually, however, the addition of organic material and fertilizer to existing soil is less expensive.

Weeds are a good indicator of soil quality. If you have a lush crop of various types of weeds, your grass should grow just as well. If the neighbors' yards are thriving, this is also a good indicator. But be sure to find out if they had to make extensive modification to the land and soil to get the grass to grow well.

In the case of absence of vegetation in nearby landscapes, it is difficult to tell what your soil is like by just looking at it. The safest way to determine soil fertility is to have your soil tested. The Cooperative Extension Service offers a soil testing service free of charge to all V.I. residents and provides two gardener's factsheets on soil testing. The soil test results give specific recommendations as to what should be added to your soil before planting. The soil test also determines the pH of your soil (acidity or alkalinity). A pH value of 6.0 to 7.0 is desirable for most lawn grasses. However, most soils in the V.I. have a high pH value (above 7.0). This ties up some nutrients, especially the trace elements (see Gardener's Factsheet # 16).

Whether you are planting a new lawn or replanting an old one, certain practices have to be followed in preparing the site for planting. Remove all debris, brush, rocks and weeds before grading the site. Especially in hard clay soils, plowing or spading followed by disking and hand raking are the best methods of preparing the soil. Hand raking is necessary to level the soil and to prevent the formation of depressions and hollows where water might accumulate. The site should be gently sloped away from the home so that water will drain away. Degree of slope should be slight, because steep slopes make grass difficult to establish and mow. Other ground cover can be planted if the slope is too steep for grass.


St. Augustine Grass

Based on your soil test results, a complete fertilizer should be applied to the soil and raked lightly into it just prior to planting. In general, use about ten to 20 pounds of a 10-10-10 or an equivalent fertilizer per 1,000 square feet unless a test has shown that the soil needs a larger or smaller amount. Mix the fertilizer thoroughly into the top three to five inches of the soil where the roots will feed.

Some soils require additional treatment. If the soil is gravelly or mostly heavy clay, you may need to incorporate soil additives to improve its organic-matter content or texture. Amendments such as peat, composts, manures and untreated wood shavings are most commonly available. All such materials are useful, so choose the one most available and least expensive. All are relatively easy to mix with the soil and should be free of weed seed. On heavy clays, an amendment such as gutter or builder's sand can also be added. Add about two cubic yards for every 1,000 square feet of lawn area. It is essential that any soil amendment be well incorporated into the soil, preferably with a mechanical device like a Rototiller. Mix to a depth of at least six inches.

The last step before planting is the final grading. The site should be as level and smooth as possible. The planting area can be raked or dragged with a steel mat until smooth or leveled by grading equipment. Remember, the more level the site, the more attractive the lawn and the easier the mowing.

PLANTING YOUR LAWN

There are two methods of establishing a lawn: seeding and vegetative propagation. The latter refers to planting material that are multiplied asexually (sods, plugs or sprigs). Seeding is usually the most economical method of planting a lawn, but this method requires a longer period of time for establishment; and not all lawn grasses can be grown from seed.

Seeding

Seeding is the easiest method of planting a lawn, but success will depend on several factors: quality of seed proper seeding time, rate and method of seeding.

Before you purchase your seed, examine the analysis tag on the container to be sure you are getting a good quality seed. Federal laws require that tags give the percentage of each grass seed in the container, the purity and germination, and the date of test.

The best time to seed a lawn in the Virgin Islands is at the beginning of the rainy months (in the fall). This is when conditions are most favorable for germination and growth.

Seeding rates are shown in the chart below. Rates vary with species and variety of grass. For example, only 1-2 pounds are needed to seed 1,000 sq. ft. of Bermuda grass. In contrast, bahia grass seed is larger and requires 5-10 pounds per 1,000 sq. ft. to produce adequate cover.

Grass seed may be planted by hand or with a mechanical seeder. However, to produce a more uniform distribution, apply your seed mechanically using a rotary seeder. Another practice that will help you obtain a more uniform distribution is to mix the seed with a convenient carrier such as gutter or builder's sand. It is very important that you lightly cover the freshly sown seed by hand raking or by dragging with a brush or mat. On slight slopes mulching with a light covering of weed-free straw or hay will help hold moisture and prevent washing of the seed during watering or rainfall.

New seedlings should be kept moist until well-established. Once seeds have begun to germinate, they must not dry out or they will die. Avoid saturating the soil: excessive moisture will float some seeds to the surface which could easily be washed away. Also, too much water greatly increases the chances of fungus diseases.

Vegetative Planting

Seeds of some grasses are not available or do not produce seedlings that are a true type (identical to parent species). Such grasses must be planted vegetatively. Vegetative planting is simply transplanting large or small pieces of grass. Solid sodding means completely covering the seed bed with square or rectangular pieces of grass. Plugging or sprigging refers to planting of pieces of sod or even individual stems or runners called stolons. Unless good quality stock/grass is available, and complete coverage is needed immediately, the expense of sodding is seldom justified.

PLANTING YOUR VIRGIN ISLANDS LAWN
Methods Available

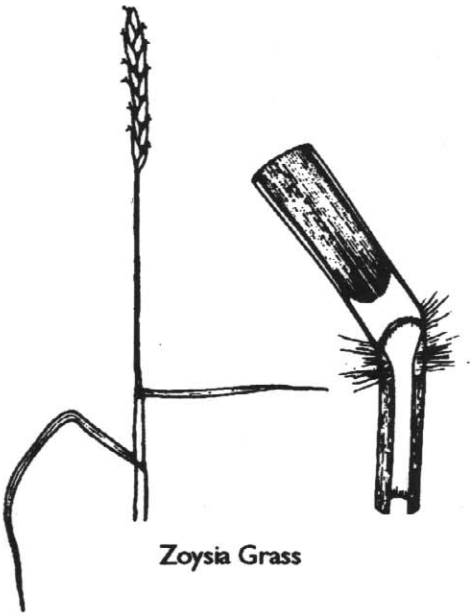
Grass	Seed	Vegetative Propagation	Rate Per 1,000 sq. ft.
Hurricane	Yes	Sprigs, Plugs, Sod	1 - 2 lbs.
Bermuda:			
Common	Yes	Sprigs, Plugs, Sod	1 - 2 lbs.
All Others	No	Sprigs, Plugs, Sod	6 - 12 inches apart
Bahia	Yes	Sod	5 - 10 lbs.
St. Augustine	No	Sprigs, Plugs, Sod	6 - 12 inches apart
Zoysia:			
Z. *japonica*	Yes	Sprigs, Plugs, Sod	1/2 - 1 lb.
All Others	No	Sprigs, Plugs, Sod	6 - 12 inches apart
Centipede	Yes	Sprigs, Plugs, Sod	1 - 2 lbs.

MAINTAINING YOUR LAWN

Lawns require regular water, plant food, mowing and pest control in order to maintain a healthy and attractive appearance. Neglecting any one of these practices may result in an unpleasant looking area around your home that was once your lawn.

In the Virgin Islands, because of low and uneven distribution of rainfall, supplementation of deficient rainfall with water from another source is often necessary in order to produce a better quality lawn. Since supplemental water is a scarce commodity in our islands, conditioning your lawn for upcoming dry weather may be beneficial.

First of all, you should not water your lawn until the grass shows signs of wilt. Spots in the lawn that turn color, footprints that remain in the grass long after being made, and leaf blades folded in half lengthwise are all indicators that the lawn needs water. When you notice any of these conditions, apply enough water to wet the soil thoroughly. Avoid watering the lawn lightly at frequent intervals; this causes shallow growth of grass roots and stimulates growth of weeds. Clay soils which are prevalent in the Virgin Islands require infrequent, thorough waterings. This enables the root systems to develop and grow deeper into the soil. The deeper-rooted the grass, the better conditioned the lawn will be to dry weather.



Zoysia Grass

Understanding plant responses to nitrogen and potassium fertilization is helpful in maintaining a healthy-looking lawn. Shoot growth is enhanced and root growth reduced by excessive nitrogen. Leaf blades become lush as nitrogen fertilization increases. Conditioning your lawn for dry weather can only be accomplished by applying just enough nitrogen to obtain a small but continuous amount of growth.

Potassium fertilization can help lawn grass increase its tolerance to stress. Potassium promotes increased root growth and thicker cell walls. Lawn grass requires potassium in nearly the same amount as nitrogen. Other macro and micro-nutrients should be kept at recommended levels for optimal growth. An annual soil test is helpful for monitoring nutrient levels.

Do not apply fertilizer, particularly an inorganic fertilizer, when the grass leaves are wet. Water the lawn immediately after applying fertilizer to wash the fertilizer off the leaves and prevent burning.

Fertilizer mixtures that contain both organic and inorganic material are beneficial in maintaining a healthy lawn. For example, organic nitrogen may cost more per unit of actual nitrogen than inorganic nitrogen, but it releases its nutrient value to the grass more slowly, and thus gives more uniform stimulation to the grass over a longer period.

Proper mowing is one of the most important factors contributing to an attractive lawn. It can "make or break" the lawn regardless of the type of grass or how well it is otherwise maintained.

Optimum cutting height is determined by the growth habit of the grass and texture (width and length of leaves). Mowing too low weakens the grass and causes the sod to thin out, encourages invasion of weeds, makes the grass more susceptible to pests, and can eventually cause the lawn to die. Mowing too high produces a ragged, unattractive lawn and encourages build-up of thatch, a layer of plant debris.

Frequency of mowing is determined by climatic conditions. For example, during the rainy

season when grasses grow very fast, they must be mowed often. During the drier months, growth is slower and mowing is needed less often.

Natural rate and type of growth also affects mowing frequency. Rapid growing grasses like Bermuda grass must be mowed more often than slow growing grasses such as Zoysia and Bahia grass. Suggested mowing heights and frequencies for various lawn grasses in the Virgin Islands are listed below.

Pest control on lawns should be done with a great deal of care because pesticides can add extra stress through chemical damage. Once a pest problem has been diagnosed, treat it promptly following recommendations from our Extension Pest Management program (809-778-0246).

SUGGESTED MOWING HEIGHTS AND FREQUENCIES
For Lawn Grasses in the Virgin Islands*

Grass	Height (inches)	Frequency (days)
Hurricane	1/2 - 1	7 - 10
Bermuda:		
Common	1/2 - 1	7 - 10
All Others	1/2 - 3/4	7 - 10
Bahia	2 - 3	10 - 14
St. Augustine	2 - 3	7 - 10
Zoysia	3/4 - 1	10 - 14
Centipede	1 1/2 - 2	10 - 14

*These are general guidelines under normal weather conditions.