



Turf Establishment

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Thinking of establishing a brand new lawn? A new lawn is a major investment in both time and money, but it should be a permanent enhancement to your property so it's important to take the time to do it right the first time. If you think you need an irrigation system, now is the time to install one.

Ensuring that the planting area is properly prepared is the first and most important part of the process. Don't try to take short cuts—five or six weeks are necessary for the entire preparation to be completed, so just plan on that.

Start by collecting a soil sample and get it analyzed by the UH-CTAHR Agricultural Diagnostic Service Center (samples can be taken to the nearest CTAHR Cooperative Extension Service office). It usually takes a few weeks to get the results, so in the meantime you can start killing off all the unwanted old grass and weeds. Herbicides are more effective when the weeds are healthy and rapidly growing, so apply a turf fertilizer high in nitrogen. Water well every day for a week or so, and the weeds and old grass will be ready for the first herbicide application. Use a non-selective herbicide such as Roundup® (it kills everything it contacts, so be careful to follow the directions on the label). Continue to water often; it will take 10–14 days to see a complete kill.

You should have received the soil analysis results from UH by the time the first crop of weeds has died. The soil report will give a recommendation for fertilizer application and possibly a pH (soil acidity) correction. Apply the recommended amount of fertilizer. This is also

a good time to spread several inches of well composted organic matter over the entire planting area. One cubic yard of compost will cover 100 square feet to a depth of 3 inches. Roto-till to mix the fertilizer, compost, and soil to a depth of at least 6 inches. Continue to water, and let the soil settle for a week. Use a roller if necessary to help settling and level the surface.

Seeds of all types will be exposed by the tilling, producing a new crop of weeds. Let them grow for 2 weeks, and spray Roundup again. Repeat the spraying until very few new weeds emerge over the next several weeks. Be patient—a weed-free planting bed will make life much easier in the months to come. This is especially true if you are going to seed your new lawn. Postemergence herbicides designed to kill weeds in grass plantings should not be used on young grass seedlings until they are 3–4 months old, during which time hand-weeding is the only option.

When you are reasonably certain that most of the weeds have been eliminated, roll the area once more to firm it up if necessary and then lightly rake it for final grading. You are now ready to plant the new grass with some confidence that weed pressure will be at a minimum and the soil conditions will support the long-term health of your lawn.

The total expense of establishing a new lawn is always a major consideration. However, an attractive landscape will add far more value to your property than the cost of installation. Property values have increased in many areas over the past few years, while the cost of landscaping has remained relatively unchanged.

The method of propagation of your new lawn can be an important factor in determining the cost of installation, although that may be dictated by your choice of grass species.

*CTAHR Popular Press articles were written to appear as newspaper columns and therefore are of necessity brief and sometimes simplified treatments of their subjects. For more detailed information resources, visit www.ctahr.hawaii.edu.

Seeding is usually the least expensive, but only a few of the warm-season grasses produce viable seed. Most of the higher-quality species are hybrids and must be established vegetatively. Centipedegrass is the only one that will reach its optimum potential from seed. Bermudagrass and zoysiagrass have seeded varieties, but none of them will produce a lawn that looks as good as their hybrid cousins. Seeds for centipedegrass, ‘Zenith’ zoysia, and some of the improved common bermudagrasses cost \$15–30 per pound and should be sown at 1–2 pounds per 1000 sq ft. The average 4000 sq ft lawn will thus cost around \$200 for seed. Newly sown seed should be covered with a thin layer of mulch and kept moist for several weeks. Labor costs for installation will depend on the method of mulching.

One of the most commonly used vegetative propagation methods is stolonizing, where short pieces of the runners (stolons) are spread over the surface of a properly prepared planting bed, rolled to ensure good contact with the soil, and covered with a thin layer of mulch to keep them moist. New leaves and roots will quickly grow from each of the nodes on the runners. Bermudagrass, St. Augustinegrass, and seashore paspalum are usually planted by stolonizing. Centipedegrass can also be stolonized if not seeded. Depending upon the species, 7–10 bushels of stolons are required for every 1000 square feet of planted surface and will cost \$15–20 per bushel. A 4000 sq ft ‘Tiffway’ bermudagrass or seashore paspalum lawn will cost around \$450 for stolons. Labor costs will again depend upon the method of mulching the freshly planted material. Preemergence herbicides can be used to inhibit weed invasion during the grow-in period, which may take only 6 weeks or so during the summer months.

Since it is more difficult to harvest good stolons from the zoysiagrasses (especially ‘Emerald’ zoysia), they are often planted by a method called plugging. Small pieces of sod, which contain mature roots, stems, and leaves, are planted into a properly prepared planting bed at about 12 inches on center. New runners will soon form at the edges of the plugs and begin to grow into the space between plugs. Since zoysiagrasses are slow growers, it may take up to 6 months to get full coverage. Preemergence herbicides can again be used to inhibit weeds. The grow-in time can be hastened by planting the plugs closer together, which will cost more because it requires more plugs. Plugging is usually more expensive than stolonizing. Ten square feet of sod will plant about 100 sq ft of lawn. An ‘El Toro’ zoysia lawn will cost around

\$1400 for materials, and labor is usually more expensive for plugging.

The most expensive method of establishing a new turf is by sodding. It’s just like laying carpet and gives you an instant lawn. Although costing 10–20 times more than plugging and over 50 times more than seeding, sodding eliminates most of the problems that come with other methods of establishment, mainly frequent watering and weed prevention during the grow-in period. The cost of sod in Hawai‘i is much higher than in mainland locations. The same ‘Tiffway’ bermudagrass lawn will cost \$9000 and the ‘El Toro’ about \$13,000 for materials. However, prices are becoming more competitive as local sod farms expand their acreage.

No matter which method of establishment used, make sure you keep the newly planted lawn moist by frequent, short waterings several times a day during the grow-in period. Mow when the grass reaches its recommended mowing height, and don’t wait too long. Mowing will help the spreading process.

See also . . .

Bermudagrass

<http://www.ctahr.hawaii.edu/oc/freepubs/pdf/TM-5.pdf>

Calculating the amount of fertilizer needed for your lawn

<http://www.ctahr.hawaii.edu/oc/freepubs/pdf/TM-9.pdf>

Centipedegrass

<http://www.ctahr.hawaii.edu/oc/freepubs/pdf/TM-14.pdf>

St. Augustinegrass

<http://www.ctahr.hawaii.edu/oc/freepubs/pdf/TM-3.pdf>

Testing your soil: Why and how to take a soil-test sample

<http://www.ctahr.hawaii.edu/oc/freepubs/pdf/SCM-9.pdf>

Watering lawns

<http://www.ctahr.hawaii.edu/oc/freepubs/pdf/TM-7.pdf>

Zoysiagrass

<http://www.ctahr.hawaii.edu/oc/freepubs/pdf/TM-8.pdf>

This article was published as a newspaper column in 2005.

Mention of trade names is not a recommendation in preference to other products that may also be suitable.