

# Athletic Field Maintenance Program for Overseeded Bermuda

Program Designed for Fall and/or Spring Sports<sup>1</sup>  
Timing = +/- 15 day leeway for applications

<b>Timing</b>	<b>Typical Product /Custom Applications</b>	<b>Management/Overseer Maintenance</b>
Mar 1	Apply urea (46-0-0) at 44#N/A (1#N/1000 sq ft)=100# product/A or 2.2# product/1000 sq ft	
Mar 15		Begin mowing ryegrass with reel or rotary mower at ~1.5 in. ht., 1 to 2 times per week.
May 1	Apply urea (46-0-0) at 66 lbs N/A (~150 # product/A. Spray Revolver <sup>2</sup> herbicide at 17 oz/A to remove ryegrass and <i>Poa annua</i> .	
May - June		Fill low, poorly drained depressions with sandy loam soil, or sand-soil mix. Soil test <sup>3</sup> – randomly collect ~1 pint soil from surface 1”, take to local UK Extension office for analysis.
May 10		Core aerify <sup>4</sup> on 3-in. centers, 3” deep, with ¾ inch tines, then break up and spread cores.
June 1	Slit-seed Riviera <sup>5</sup>	Keep new seed moist with light irrigation, one to several times daily for ~2 wks.
June 1	Apply urea (see May 1 above)	
June 25	Spray MSMA <sup>6</sup> + repeat spray in 7-10 days.	
July 1	Apply urea (see May) Apply Trimec broadleaf herbicide <sup>7</sup>	
July 15		Core aerify <sup>4</sup> as noted for May 10 above
Aug 1	Apply urea <sup>8</sup> (see May above)	
Sept 1		If bermuda is still growing, raise mowing height to 1.5 in. or stop mowing asap.
Sept 10-30	Overseed <sup>9</sup> with perennial ryegrass	Keep surface moist with light irrigations until germination complete. Keep traffic off field during germination, otherwise you will establish the ryegrass on the sides, and almost none in the field center. This defeats the purpose of overseeding since the high traffic areas will be dormant (brown) and the sides green.
Oct 10	Apply urea as noted for Mar 1 above	
Oct or Nov	Apply 0-0-60 <sup>10</sup> at 130# product/A	Whenever possible, avoid playing/practicing on wet soil and avoid concentrating traffic in the same areas continuously. If soil displacement occurs and turf is worn thin, spring recovery of bermuda is sacrificed.

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<sup>1</sup> Although overseeding is commonly practiced in Kentucky, it is not generally recommended because of the increased cost, necessity to remove traffic for a two or three week period in Sept. in order to get uniform establishment, because the ryegrass must be chemically sprayed-out in the spring and because the overseeding only adds green color for a game or two in late fall. Overseeding reduces the overall quality (density) of bermuda, even when the ryegrass is chemically removed the following spring. The one exception is spring baseball, a sport that is normally played when bermuda is dormant (ugly brown), does not have a thick resilient surface, and sometimes is infested with ugly winter annual weeds. Overseeded ryegrass will give a more uniform surface and one that is very green and easily striped for aesthetics.

Normal field size:      Football = 360' X 180' (includes bench area) = ~1.5 acres  
                                 Soccer= 360' X 242' (includes bench area) = ~2 acres  
                                 Baseball = ~ 2.5 acres of grass  
                                 Softball, skinned infield = ~ 1.5 acres of grass

<sup>2</sup> If spring baseball is still being played in May, then delay the Revolver application until the season is complete. However, this delay will decrease the time in which the bermuda has to recover and will reduce its quality (density and uniformity).

<sup>3</sup> If results indicate need for 2.5 + tons lime/A or if phosphorus (P) or potassium (K) is 'very low', then Ag lime and extra fertilizer should be added to the custom program, at least for one annual application. Complete fertilizers like 10-10-10, 18-18-18, etc can be substituted for one or more of the urea applications.

Although urea is recommended throughout this program, it could be substituted with many great specialty turf fertilizers. Most specialty turf fertilizers contain some slow release N and this reduces the burn potential. However, urea is the cheapest form of nitrogen (N) and it is most readily available at farm stores and cooperatives throughout Kentucky.

<sup>4</sup> Core aerification, done 2 or 3 times each summer is extremely important for high traffic areas, especially between hash marks, in bench areas and in goal mouths. Core aerification that removes 3–4 inch cores, and deposits them back to the surface is important for the following reasons:

(a) relieves surface compaction and surface hardness when dry.

(b) improves soil aeration. Without soil oxygen, roots and rhizomes will not grow and the surface soil stays saturated for long periods of time after irrigation or rainfall. Root depth is minimized and irrigation must be utilized much more frequently during summer months.

(c) the deposited soil cores, when broken-up and distributed (by dragging), serve as an important topdressing that discourages organic buildup at the surface (i.e., improves microbial activity) and smoothes the surface for better footing. This can and should eliminate the need for sand topdressing.

(d) improves water infiltration and reduces problems of wet, slick surfaces.

<sup>5</sup> Bermuda must be seeded shallow, no deeper into the soil than 1/8<sup>th</sup> inch. Improved rate of germination can be achieved by covering with a Remay or other synthetic cover until germination is achieved. Seed Riviera in thin or bare soil areas only; areas between hash marks = ~16,000 sq ft + bench area ~ 2,000 sq ft = 18,000 sq ft, or less than ½ acre. Seed rate = 1 lbs coated seed/1000 sq ft seeded in two directions for a total of 2 lbs coated seed or 44 lbs per 1/2 acre, or 88 lbs per acre. Cheaper varieties, such as Savannah and Transcontinental are less expensive and germinate faster than Riviera; however, Riviera has the best winter hardiness, dark green color, spring dead spot resistance, etc. Bare or thin bermuda areas can also be sprigged with cultivars that match the existing cultivar in texture, color, etc.

<sup>6</sup> There are at least four crabgrass control options. The first option, the one recommended in this maintenance program, is applied when the crabgrass is in the seedling stage and before crabgrass is mature. For the last three options below, a preemergence product is applied prior to crabgrass germination.

(a) Spray MSMA. MSMA is by far the cheapest product to purchase but it must be sprayed in two applications to get crabgrass kill. Normally MSMA is applied at 2 lbs a.i./acre, followed in 7 to 10 days with another application. Spraying when the daytime temperature is over 90 degrees may produce severe bermuda burn, however the bermuda will green back up in a week or two. MSMA can also be sprayed on young seedling bermuda, but frequently it is best to make the first application at the 1 lb a.i./acre rate. MSMA has no soil residual and you can establish bermuda with seed or sprigs immediately after applications. MSMA will also kill most broadleaf weeds like clover and chickweed and will give quick burn-down of yellow nutsedge.

(b) Spray Ronstar WP about March 1 when bermuda is still dormant – totally brown. This should give good crabgrass control, but if you have experienced winter loss of bermuda, you can only sod or sprig (not seed) bermuda after green-up determination about June 1.

(c) Spread Ronstar G or Ronstar FG (fertilizer granule) about March 1 to April 15 when bermuda is greening-up. But as noted above, this would not allow germination of seeded bermuda and you could only sod or sprig (row plant) vegetative bermuda. Ronstar G would be best for goosegrass control, but also more expensive than Ronstar WP.

(d) From Feb 15 to April 1, apply other pre-emergence products like Barricade (proflaminate), Pre M (pendimethalin) or Dimension (dithiopyr). These products are relatively inexpensive but should only be used if you are 100% sure that there has been no winter loss of bermuda. Because you cannot seed or sprig successfully into these active preemergence herbicides, it would likely be mid-July before re-establishment could be achieved.

<sup>7</sup> A combination 2,4-D + dicamba herbicide like Trimec may be needed to eliminate summer broadleaf weeds like white clover, dandelion, plantain, etc. Do not spray in very hot weather or when wind is blowing more than 10–15 mph.

<sup>8</sup> If bermuda cover is near 100%, it is best to eliminate this application to allow bermuda to harden off and toughen up for upcoming traffic.

<sup>9</sup> Overseed with any turf-type perennial ryegrass variety and seed at approximately 10 to 15# per 1000 sq ft (450 - 650# per acre). Prior to seeding, fluff the bermuda with a chain drag or tine rake, then broadcast the perennial ryegrass in at least two directions to get uniform seed coverage, and then chain drag or mat drag the area again to vibrate the seed to the soil surface. Do not slit seed the ryegrass into the bermuda because it will potentially damage the bermuda hardiness and spring recovery.

<sup>10</sup> This application of potash can be omitted if the soil test reveals a 'very high' potash(K) level in the soil. The purpose of high K is to improve winter hardiness.