

**Athletic Field Maintenance Program for Non-Overseeded Bermuda
Program Designed for Fall Sports¹**

Timing = +/- 15 day leeway for applications

Timing	Typical Product /Custom Applications	Management/Overseer Maintenance
Jan – Feb		Fill low, poorly drained depressions with sandy loam soil, or sand- soil mix. Soil test ² – randomly collect ~1 pint soil from surface 1”, take to local UK Extension office for analysis.
Mar 1	Spray 1 qt RoundUp/A3 for winter annual weed control	
May 1	Apply urea (46-0-0) at 66 lbs N/A (~150 # product/A.	Begin mowing with reel or rotary at ~1 in. ht, 1 to 3 times per week. Mow every 2 to 3 days in hot weather for best quality
May 10		Core aerify ⁴ on 3-in. centers, 3” deep, with ¾ inch tines, then break up and spread cores.
May 20	Slit-seed Riviera ⁵	Keep new seed moist with light irrigation, one to several times daily for ~2 wks
June 1	Apply urea (see May 1 above)	
June 15	Spray MSMA ⁶ + repeat spray in 7-10 days.	
July 1	Apply urea (see May) Apply Trimec broadleaf herbicide ⁷	
July 15		Core aerify ⁴ as noted for May 10 above
Aug 1	Apply urea ⁸ (see May above)	
Sept 1		If bermuda is still growing, raise mowing height to 1.5 in. or stop mowing asap.
Oct 10	Apply urea as noted for Mar 1 above	
Oct or Nov	Apply 0-0-60 ⁹ 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.

¹ Program designed for developing quality turf for football, soccer and other fall sports. Normal field size: Football = 360' X 180' (includes bench area) = ~1.5 acres
Soccer = 360' X 242' (includes bench area) = ~2 acres

² 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, 19-19-19, etc can be substituted for one 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.

³ Spray on relatively warm day for winter annual weeds such as *Poa annua*, chickweed, henbit, etc. If there is no more than a 10 – 15% weed cover, consider omitting this application or consider only spraying in the high traffic areas where the bermuda is thinnest and weeds are most likely thickest.

⁴ Core aeration, 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 aeration 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 with wet, slick surfaces.

⁵ Bermuda must be seeded shallow, no deeper into the soil than 1/8th inch. Improved rate of germination can be achieved by covering with a Remy 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 best winter hardiness, dark green color, spring dead spot resistance, etc. These bare or thin bermuda areas can also be sprigged with cultivars that match the existing cultivar.

⁶ There are at least four crabgrass control options. The first option and 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 degree 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 ai/ 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 could 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 (proflam), 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.

⁷ 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.

⁸ 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.

⁹ 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.