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Sports Field Management Practices – Athletic Field Management in the Spring

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Your turf survived the long, hard winter and now it is time to get your field ready for play again. Hopefully, you prepared your field for the winter during the fall and you are heading into the spring with a strong, healthy turf stand. Even if your field is not in the condition you want it to be in at the beginning of spring, there are things you can do to get it ready for the first game. After all, you know that as soon as the weather breaks, your field will be a busy place. Here are some tips to get your field looking great before that first game.

Have a Plan

- Be prepared. Take time during the winter to plan out your maintenance schedule so as soon as the weather warms up, you will be ready to go.
- Take a soil sample and send it to your local testing facility (most universities can test your soil). You will get a report back with fertilizer recommendations that you can use to set up your fertilizer program. You will also find out if you need to correct your soil pH.
- Be sure to have all equipment, seed, and fertilizers on hand before they are needed.
- Get ready to battle Mother Nature. Spring rains can create water-logged fields. Make sure all of your baseball tarps are in good condition and explain the consequences of playing on a saturated field to the coaches, administrators, parents, and players.



Figure 1. Base your fertilizer program on soil test results.

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What to do When Spring has Sprung

- Survey your fields. Identify potential problem areas like high wear areas, and on bermudagrass fields, look for areas affected by winterkill and spring dead spot. Be sure to give extra attention to these areas so they can recover quickly.
- Consider rotating or sliding your fields to spread out the wear. Sometimes sliding a field over just 10 yards can make a big difference.
- If you used growth covers over the winter, remove them after 4 or 5 consecutive days of warm temperatures, but don't put them away. Be prepared to put the covers back on if you get an early spring cold snap.
- Seed or sod high wear areas and areas that did not survive the winter.
- Fill in low areas with sand or soil to prevent puddles from forming and seed or sod them. If you fix the problems now, you won't be battling them all year long.
- Prepare your irrigation system. Once you charge the system, check for broken heads and leaky pipes that need to be repaired.



Figure 2. Adding soil and seeding or sodding bare, low-lying areas like goal mouths early in the spring eliminates having to deal with these areas all year long.

Cool Season Grasses

The following are recommendations for managing Kentucky bluegrass and/or perennial ryegrass sports fields in the spring.

Mowing

Mowing properly can make a big difference in the look and performance of your field. It is important to keep up with your mowing schedule, especially in the spring when the turf is growing quickly.

- Begin mowing as soon as the turf begins to grow.
- Be sure to use sharp blades so you get a clean cut.
- Do not remove more than 1/3 of the leaf blade per mowing.
- Mow frequently. You will improve the density of your turf with more frequent mowings and you will not leave unsightly clumps of grass behind. You may need to mow three times per week during the spring flush of growth.
- Delay mowing on waterlogged fields to prevent ruts.

Fertilization

When temperatures are consistently in the 50's, cool season grasses begin to grow and require fertilizer for healthy growth and development. Springtime fertilization can help your field recover from fall damage as well as prepare the turf for the upcoming season.

- Follow the recommendations in your soil test report to provide your turf with the required amounts of nutrients. By applying only the amounts the plants need, you are not only being environmentally responsible, but you are also saving money.
- Apply 1.5 to 2 lbs. of nitrogen per 1000 ft² during spring. It is best to split the amount into two applications – one in early spring and one in late spring.
- Combine your fertilizer applications with your cultivation practices (i.e. aerification).

Cultivation Practices

Spring is an important time to perform cultivation practices that relieve soil compaction, increase water infiltration, remove thatch, and increase soil oxygen flow.

- Aggressively aerify your field with hollow tines. Removing plugs of soil with hollow tines is the most effective way to reduce surface compaction. The soil

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should not be too wet (the sides of the holes will glaze over) or too dry (the tines will not penetrate the soil).

- Consider using a deep-tine aerator, which has long tines that penetrate deeper into the soil. This relieves compaction by shattering the soil. The soil should be dry so it shatters easily.
- Using a spiker, slicer, or hydroject will help improve soil conditions but should only be used in the spring when surface disruption must be kept to a minimum. These are not acceptable substitutes for hollow tine aerification and/or deep-tine aerification.
- Applying 1/4 inch of quality compost prior to aerification will improve your soil. After the compost has been applied and aerified, drag the field to help incorporate compost into the soil. Do not use compost on sand-based fields.
- If compost is not used, following aerification, topdress the field with a layer of sand, seed with Kentucky bluegrass and/or perennial ryegrass, and fertilize according to soil test recommendations.
- If your soil requires lime to correct your pH (based on your soil test), apply the recommended amount after cultivation and drag the field to allow the lime to work into the soil.



Figure 3. Hollow-tine aerification temporarily disrupts the soil surface, but it is one of the best things you can do for the health and performance of your field.

Weed Control

Not only is your turf waking up and growing when the warm temperatures hit, so are the weeds. In addition to preparing for the usual crabgrass and goosegrass outbreaks, knotweed can be a problem on highly compacted fields.

- You must decide if it is more important to seed your field in the spring or prevent weeds from germinating – you can't do both. If you apply a preemergent herbicide, your grass seed will not grow.
- Seeding early in the spring will repair your field from wear and then you can apply postemergent herbicides to kill any weeds later in the spring or summer.
- If knotweed is a major problem early in the spring, you can apply a broadleaf herbicide after it germinates and then seed after waiting the required period of time (see herbicide label for seeding instructions).

Bermudagrass

The following are recommendations for managing bermudagrass fields in the spring.

Mowing

Bermudagrass begins to green-up when temperatures hit the 50's, but it does not begin active growth until temperatures reach the upper 60's. Once it does begin to grow, the same guidelines for springtime mowing that were presented in the cool season grasses section should be followed. Here are some additional tips for bermudagrass fields:

- Reduce mowing height several weeks before expected bermudagrass green-up to allow more light to warm the soil. Lowering the mowing height also stresses the overseeded ryegrass in preparation for removal.
- Mowing regularly will also help knock down actively growing weeds that can flourish early in the spring in slow growing bermudagrass.

Fertilization

It is important to not push the bermudagrass too soon with fertilizer because if the weather turns cold, there is an increased risk of cold temperature injury.

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- After there is no longer a threat of frost and the bermudagrass is actively growing, begin fertilizing based on your soil test results. Bermudagrass typically needs about 1 lb. of nitrogen per 1000 ft² per month during its growing season.
- Quick release nitrogen (urea and ammonium sulfate) usually works best for bermudagrass.

Cultivation Practices

Cultivation practices should be done after the bermudagrass has fully greened-up and is actively growing (late spring and summer). If you perform these practices any sooner, you are increasing your risk for cold damage and weed invasion.

Removal of Overseeded Grass

If you overseeded in the fall, the ryegrass must be removed to allow the bermudagrass competition-free growth in the summer. Many perennial ryegrasses have high heat and drought tolerance and will often persist well into the summer and limit bermudagrass growth. Remember, bermudagrass needs at least 100 days of competition-free growth in the summer.

- If you don't need the green color from the overseeded grass in the spring, spray the field with Roundup (glyphosate) before temperatures warm up, making sure the bermudagrass is COMPLETELY dormant. This is the best case scenario for the bermudagrass because it can green-up without any competition.
- Cultural methods such as verticutting and aerifying are often ineffective at completely removing the overseeded grass.
- Prepare to use transitional herbicides like Revolver (foramsulfuron), Tranxit (rimsulfuron), and Monument (trifloxysulfuron). These are effective at removing overseeded ryegrass without injuring the bermudagrass.
- Temperature affects the amount of time it takes for the transitional herbicides to remove the ryegrass. It will take longer to kill the ryegrass if it is cold.

- Timing is key. If you spray too early, your bermudagrass will still be brown when the ryegrass dies out and if you wait too long, you will be holding back the bermudagrass. The best time to treat is dependent on your location. If you time it perfectly, your ryegrass will be dying out just as your bermudagrass is beginning active growth.

Weed Control

Winter weeds can be a serious problem in dormant bermudagrass. For example, annual bluegrass thrives in the cool, damp conditions of late fall and early spring. Weed control at the beginning of spring is an important step to providing a great field.

- If the bermudagrass is COMPLETELY dormant, apply Roundup (glyphosate) to kill all actively growing weeds.
- Applying a preemergent herbicide in the late fall or early spring will prevent weeds like annual bluegrass, crabgrass, and goosegrass from germinating. Use a product with the active ingredient oxadiazon (Ronstar). Other products inhibit stolons from anchoring into the soil.
- For broadleaf weed control, use herbicides that contain more than one active ingredient (i.e. Trimec) for broad spectrum weed control.
- MSMA can be used for selective control of dallisgrass and other grassy weeds.
- If you overseeded, use Velocity (bispiribac-sodium) to selectively remove annual bluegrass from overseeded ryegrass.

Spring can be both an exciting and stressful time for field managers. Make it easier on yourself by developing your maintenance plan before the weather breaks so you are ready to go as soon as the turf greens-up. Spring maintenance practices such as mowing, fertilization, cultivation practices, and weed control lay the foundation for season-long success.