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DID YOU KNOW? The winter survival rate of seeding accomplished in December is many times greater than seeding accomplished in late October/November.

"Murphy's Law"

Dr. James Murphy is an Associate Extension Specialist in Turfgrass Management for Rutgers, department of Plant science. Ask Dr. Murphy your questions: E-mail us at hq@sfmanj.org

Question: I have read a number of articles written on the subject of late season nitrogen fertilization. Some recommend a fast acting nitrogen source with a relatively small percentage of slow release N and other articles recommend a product such as IBDU, with a very dependable slow release mode of action. What is your philosophy on late season N?

Answer: My philosophy on late season nitrogen (N) fertilization is to base your choice of fertilizer material and rate of fertilization on the needs of the turf. You can use either type of fertilizer source successfully if you recognize the types of growth responses you get from each type and use accordingly. Thus, if I could paraphrase your question, "How do I decide between fast acting (water soluble) and slow release nitrogen fertilizer for use in late season fertilization?"

First, a turf manager needs to recognize the growth pattern of cool season grasses in the fall. Grasses like Kentucky bluegrass, tall fescue, and perennial ryegrass will aggressively produce new tillers (shoots) and roots, and store carbohydrates (food) during the fall and winter, if sufficient N fertility is available.

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Without adequate N, these growth responses occur, but at a more limited pace which may not be sufficient for damaged sports turf. Thus, cool season grasses will fill-in (recover from wear damage) and develop outstanding root systems if proper N is applied in the fall. A convenient advantage of fall fertilization is that you get these excellent growth responses without an excessive amount of vertical shoot growth and, thus, less mowing is required compared to spring fertilization.

Late season fertilization with water soluble (fast acting) N ensures that the turf will continue to store carbohydrates and develop new tillers (shoot density) and rooting during the mild winter weather and early spring. Therefore, sports fields that are severely worn will benefit more from water soluble (fast acting) nitrogen over slow release N. Slow release N will not provide as much available N in late fall and winter as water soluble N and, therefore, the fall growth responses will be reduced with slow release N.

The more slow release N you use in late season fertilization the more you are providing an early spring fertilization effect. Recognize that early spring growth in cool season grasses involves rapid green up and vertical shoot growth. Early spring growth consumes the carbohydrates (food reserves) stored in the fall and winter. Thus, excessive growth stimulation in early spring reduces some of the stress tolerance of the turf as well as increasing the demand for mowing. Use of slow release N in late fall is best suited for those fields that have good turf conditions in the fall and will require some early spring growth to withstand use/play at that time. Some of the slow release N will be available for late season growth responses, however most will stimulate spring growth responses. ▲

Recommendations for	mu ogen (N)	source and	rate to us	e for late se	eason N fer	tilization.
	Weak, Thin Turf in Fall			Good Turf in Fall		
_	Fall	Spring	Fall &	Fall	Spring	Fall &
Form of N source	Play	Play	Spring	Play	Play	Spring
	Approximate % of N source to use					
Water Soluble (Fast acting)	70 to 100	50 to 70	50 to 70	70 to 100	0 to 30	50 to 70
Slow release N	0 to 30	30 to 50	30 to 50	0 to 30	70 to 100	30 to 50
	pounds per 1000 ft ²					
Total N to Apply	1 to 2	1 to 2	2	1	1	1 to 2

Recommendations for nitrogen (N) source and rate to use for late season N fertilization.

Sports Field Managers Association of New Jersey