Kussow study: No harm

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streams, rivers and lakes. These excess nutrients were thought to cause algae blooms, which decrease oxygen levels and sometimes kill fish. Indeed, several municipalities across the country have banned phosphorous-containing lawn fertilizers in response to these fears.

But research by Dr. Wayne Kussow, a leading turf and soil expert from the University of Wisconsin-Madison, shows otherwise.

Kussow first began investigating runoff losses from turf in 1993. In 1995 and 1996, he developed test plots to study the effects of fertilization on turf runoff.

Similar plots of Kentucky bluegrass each underwent one of three different fertilization regimes:

- treatment with the organic fertilizer Milorganite;
- treatment with a synthetic fertilizer; or
- no fertilization at all.

The fertilized plots each received four equal applications a year. Runoff water was collected from the plots after each rain, or snow melt to measure the amount of nitrogen and phosphorous present in the water. The results were startling.

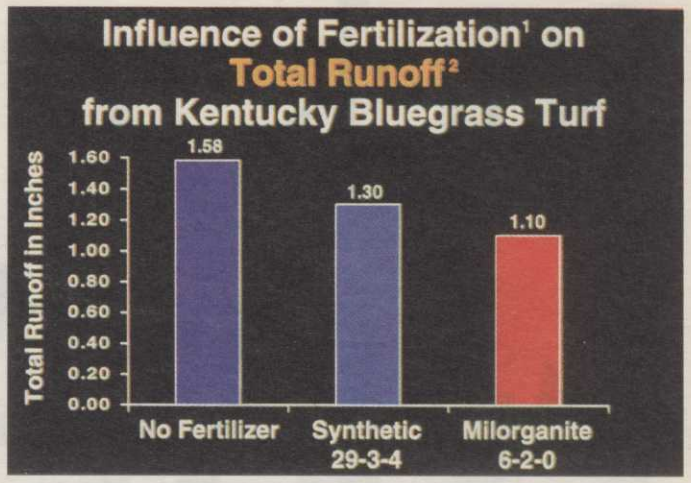
Kussow observed that after a single year without fertilization, runoff from the unfertilized turf plots exceeded runoff from the fertilized turf plots by at least 30 percent. This, in turn, led to significantly more runoff losses of nitrogen and phosphorous from the unfertilized turf.

He also found that 60 percent of the nitrogen and 80 percent of the phosphorous in runoff water from the turf occurred when the soil was frozen. This indicates that most of the nutrients in runoff water actually come from the leaf tissue itself, and not from turf fertilizers.

Well-fertilized turf reduces runoff because increased turf density slows down water movement, giving the soil more time to absorb it. Failing to fertilize leads to a decline in turf density and increased runoff, since water can flow across a thin turf stand more rapidly. Because increased turf density significantly reduces runoff, it is essential to ensure that turf does not lose density due to nitrogen deficiency. Fertilizing is the best way to accomplish this objective.

Kussow has expanded his runoff study this year to examine several other nitrogen sources.

Milorganite is an organic fertilizer containing 13 essential plant nutrients. Its slow-release nitrogen formula encourages dense growth and a rich green color.



Larry Lennert is manager of research and product development at Milorganite, produced by the Milorganite Division-MMSD in Milwaukee, Wis.

Beer retires

LAKE LOTAWANA, Mo. — Carl Beer, superintendent at Mission Hills Country Club for 32 years and former president of the Heart of America Golf Course Superintendents Association (HAGCSA), retired Aug. 1.

Twice named by his Kansas peers as Superintendent of the Year (1981 and 1982), Beers not only served HAGCSA, but also was on the board of directors of the Mississippi Valley Turfgrass Association and the Kansas Turfgrass Foundation. He was the second superintendent to be certified in the state of Kansas.

He was instrumental in establishing the Turf and Horticultural Department at Longview Community College, where he was a part-time instructor.

A graduate of the University of Massachusetts turfgrass school, where he was president of his class, Beer worked at Oakwood Country Club, then moved to Indian Hills Country Club. He was hired as assistant superintendent at Tomahawk Country Club and became superintendent there in 1960. He was hired as Mission Hills Country Club superintendent in 1965.