

Microbial activity is influenced by the pH of the soil. Most microbes function best at neutral to slightly alkaline soil reactions.

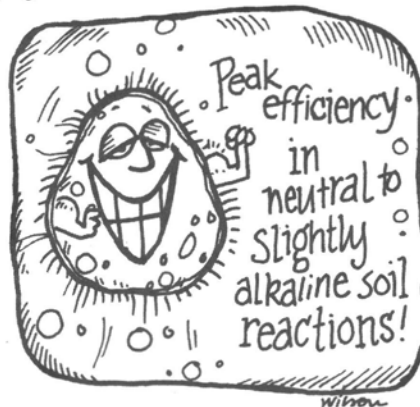
The Carbon/Nitrogen Ratio (C/N Ratio)

When organic matter is decomposed under aerobic conditions (adequate oxygen) there is a loss of carbon as carbon dioxide - a gas - from the system and the retention of the nitrogen in the tissue of the microbes or as mineral nitrogen, for example nitrate nitrogen. This process continues until the ratio of carbon to nitrogen remaining in the system reaches a value similar to that of microbial protein which is approximately 10 parts of carbon to 1 part of nitrogen - a C/N ratio of 10. At this point decomposition ceases or becomes very slow because the microbes are now essentially recycling their own tissue. The stable material which remains is known as **humus**.

The C/N ratio and relative decomposition rate of several materials of interest to turf managers are listed in Table 2. With the exception of humus the higher the ratio the slower the rate of decomposition due to a shortage of nitrogen relative to carbon.

Induced Nitrogen Deficiency

The addition of a large amount of an organic material having a wide C/N



ratio, for example, a heavy application of peat moss during the reseeded of a compacted goal mouth area, may result in a temporary nitrogen deficiency in the establishing grass. The deficiency occurs because the nitrogen in the soil is being preferentially used in growing new tissue by the microbes as their population explodes due to the large supply of carbon provided by the peat moss. The condition can be easily corrected by the application of soluble nitrogen fertilizer.

Similar conditions can exist during the establishment of turf on sand root zone systems. Thus it is recommended that no more than 10% of the volume of the upper 15 cm of the rooting zone be peat. It must be remembered that in addition to a potential to induce nitrogen deficiency, the peat will eventually decompose and the space occupied by the peat will be occupied by sand or grass roots. It is unlikely the volume of grass roots which may replace the peat will reach 10%.

OTRF Supports Turf Research

In 1992 the Ontario Turfgrass Research Foundation supported research at the Guelph Turfgrass Institute to the amount of \$30,000.00. These funds are primarily generated through membership in the Foundation, in which many STA members hold a membership, and through various fund raising efforts of the Foundation. Indirectly each STA member who registers for the 1993 Turfgrass Symposium will also make a small contribution to the Foundation through a profit sharing arrangement between the sponsoring bodies. In 1992 this contribution amounted to \$6.65 per STA registrant.

GREEN CARE RESPONSE

In 1991, a lobby group called "The Urban Pesticides Caucus" was formed with the objective to persuade all municipalities to ban the use of chemicals for so called cosmetic appearances. They circulated a brief entitled 'Regulating the Urban Cosmetic Use of Synthetic Pesticides' to every municipality, and to MLA's, in Ontario.

In response to this group, Green Care commissioned a consulting firm, Ecological Services for Planning, to prepare an evaluation of the statements made in the brief. Their evaluation "A Scientific Response to the Urban Anti-Pesticide Lobby" is now available for the price of \$5.00 payable to:

Green Care Horticultural
Association
26 Old Oak Road
ISLINGTON, ON.
M9A 2V8

Your Association considers this rebuttal of the Urban Pesticide Lobby brief a 'must reading' for every turf manager facing restrictions in the use of some of his management tools by misinformed public and legislators. **Be sure to get your copy.**

WELCOME TO OUR NEW MEMBERS



Doug James *London PUC*
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