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Alfalfa Green to Address Turf Grass Salinity

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Alfalfa green pellets are a versatile product, branching from traditional use in the feed market to the endless possibilities as a soil amendment. Many industries have seen the benefits of using AG in their soil care regimes, including: market gardens, remediation and reclamation, and turf grass care. Alfalfa green (AG) has been proven to improve several common turfgrass problems, as well as its usual application as fertilizer.

AG is 100% dehydrated alfalfa forage, and the incorporation of the plant fibres from the pellets into the soil gives the entire soil ecosystem a boost by kick-starting the microbes that are necessary for nutrient cycling and plant growth. As the microbes break down the pellets, organic matter is being worked into the soil. This organic matter helps retain soil moisture, acts as a buffer against extreme temperatures, improves and prevents soil compaction, and improves overall soil health and structure.

AG pellets retain up to three times their weight in water, so while the pellets are waiting to be decomposed by the microbes they are acting as 1) a mulch for the soil and 2) miniature soil moisture reservoirs. By allowing the pellets to sit on top of the soil, they protect the soil surface from the sun and further prevent evaporation. During rainfall the pellets also absorb surface water like sponges, preventing flooding and sheet erosion. The pellets would also retain that moisture until the soil was dry enough to draw the moisture out of the pellets (osmosis).

Because pH is such an important factor in soil chemistry, having a fertilizer that does not effect the pH is a game-changer. In addition to acting as a significant source of organic matter, AG contains over 20 micro- and macro nutrients. Because the availability of these nutrients depends on pH, it is crucial to keep the soil at its optimum pH to keep plants happy and the soil healthy. Generally, the pH sweet spot is close to neutral (~7 on the pH scale) where most nutrients are available at amounts that are safe for plants. The problems start appearing if the pH changes and gets lower or higher, shifting the nutrient availability. When some nutrients become more available and others less available, the results are mineral toxicities and/or deficiencies. Unlike many fertilizers currently on the market, alfalfa green adds nutrients to the soil ecosystem without changing the soil pH or adding additional salts to the soil ecosystem.

Salinity, the compounding issue faced by golf courses around the world, is often a result of poor soil chemistry and physical properties. Factors such as poor drainage (a result of low organic matter, compaction, or clay soils) make salinity problems patchy, as the water pools into low spots and has nowhere to go. As it evaporates, the soils dissolved in the water are left behind,

creating a layer of salts on the surface of the soil. Alfalfa green addresses most of the contributing factors, and should be effective in addressing salinity problems.

Royal Regina Golf Course has measured their electronic conductivity (EC) at a level of 5 dS/mm. According to literature, anything over 4dS/mm is so saline that almost no plants will grow. This is something that hopefully alfalfa green will mitigate. Further observations and trails will be gathered but in summary, the reasons AG is effective at addressing the turf grass problems at Royal Regina Golf Club are:

1) Add organic matter to the soils;
2) Neutral pH;
3) Over 20 micro- and macronutrients;
4) Fertilize without adding to the salt content; and
5) Mitigates the effects of excess sulfur by neutralizing pH and kick-starting the microbes.