Natural Pesticides

Research by Dr. Nick Christians at Iowa State University has had positive results regarding the use of corn gluten meal on turfgrass. His research has shown it to be a natural herbicide that inhibits root formation at the time of germination of grasses, including crabgrass, and broadleaf weeds. It has no postemergent control and does not damage mature grass plants. In fact, it acts as a natural organic fertilizer for mature turf plants because it contains 9 to 10 percent nitrogen. Some of the drawbacks associated with corn gluten meal are that it requires specific environmental conditions and correct timing for application. There are also restrictions on the timing of overseeding with desirable grasses. Corn gluten meal can also be attractive to geese, which may result in unsightly damage to the turf. More information on the research associated with corn gluten meal can be found at the following website: http://www.hort.iastate.edu/gluten/

References: Information for this section was also provided by Mary Owen – University of Massachusetts.

Minimum-Risk Pesticides

Minimum-risk pesticides do not carry EPA registration numbers and only contain natural ingredients approved by the EPA. More information regarding these pesticides can be found on the following website: http://www.epa.gov/oppbppd1/biopesticides/regtools/25b_list.htm

Biopesticides

Biopesticides are microbial or biochemical products derived from natural materials such as animals, plants, bacteria and certain minerals. There are three major classes including microbial pesticides, Plant-Incorporated-Protectants (PIPs), and biochemical pesticides.

Microbial pesticides contain microorganisms as the active ingredient. This organism attacks or competes with the pathogen or pest. These biopesticides can control many different kinds of pests, but each separate active ingredient is relatively specific to the target pest.

Plant-Incorporated-Protectants (PIPs) are pesticidal substances that plants produce from genetic material that has been added to the plant. In other words, the plant manufactures the added substance to destroy the pest.

Biochemical pesticides are naturally occurring substances that control pests by non-toxic mechanisms. Examples of this type of control involve the use of substances that interfere with mating or scented plant extracts that attract pests to traps.

More information on biopesticides can be found at the following website:
http://www.epa.gov/pesticides/biopesticides/whatarebiopesticides.htm

Rutgers has provided a Database for Biopesticides that allow users to search for biopesticides according to type of crop/site, the pest or problem, and state. Users can also limit their search to organic options.
http://ir4.rutgers.edu/Biopesticides/LabelDatabase/index.cfm?CropType=&Crop=&PestType=&Pest=&Organic=&CFID=202590&CFTOKEN=13828581