

USDA DEVELOPS POLYMER USED AGAINST WEEDS, INSECTS

The USDA has developed a new film-forming polymer for creating barriers against weeds or insects.

Made of sewage sludge, methyl alcohol and a starch compound, the pesticide-polymer dries to an invisible film after being applied as a spray on soil or plants. A polymer is a compound created by combining small molecules or units to form large molecules.

According to William B. Roth, Agricultural Research Service (ARS) scientist, the polymer film won't dissolve in water. It keeps the pesticide in a barrier that will destroy emerging weeds or attacking insects and minimizes environmental pollution by reducing pesticide runoff and evaporation. After the pesticide is exhausted, the film decomposes into natural soil components.

The new polymer also increases the effectiveness of a commercial herbicide and needs a low rate of herbicide application to stop grass weed growth. It was as successful as greater applications and amounts of herbicide without the polymer. With the polymer, the herbicide didn't require mixing with soil to prevent evaporation. Instead, the herbicide-polymer was sprayed on the soil surface and dried as a weed-emergence barrier.

Roth developed the polymer from a viscous product which was found by Edwin N. Davis, a microbiologist, and Lowell L. Wallen, a chemist, at the Northern Center. Their studies revealed the bacteria in activated sludge form a thick, black product when methyl alcohol is mixed and aerated with the sludge.

In other actions, Roth adds the pesticide to the sludge-alcohol and combines it with dialdehyde starch as a cross-linking agent. The starch compound was another Northern Center discovery and is marketed as a paper strengthening agent.

Industry News

1977 TURFGRASS PROGRAM BUDGET PROPOSAL I. A.G. Turgeon [U. of I. Horticulture] \$5,000

To provide general support for operating field, laboratory and greenhouse research facilities. Studies covered include; soilless sod, herbization, thatch characterization, turfgrass cultivar evaluation, fusarium blight, vegetative establishment techniques, turfgrass clipping analysis, annual bluegrass control and culture, selective bentgrass control, tall fescue management, rough bluegrass culture, biodehatch evaluation, renovation with non-selective herbicides, etc.

II. G.R. Street [U. of I. Horticulture] \$1,000

To provide supplemental funds for operating the extension program, and to support some research in

turfgrass fertilization and thatch composition. Extension program support is necessary to hire student labor for clerical work.

III. F.C. Hinds [U. of I. Animal Science] \$1,000

To provide support for feeding studies and laboratory analysis of turf grass clippings.

IV. N.C. Cole [U. of I. Agronomy] \$1,000

To provide support for additional laboratory studies to determine the impact of arsenate compounds on soil microflora.

V. H.G. Portz [S.I.U. Plant Science] \$1,000

To provide general support for research on turfgrass cultivar evaluation under transition-zone conditions, color retention by warm-season species, and various cultural studies with tall fescue, Kentucky bluegrass, Zoysia and bermudagrass.

VI. Miscellaneous [A.G. Turgeon] \$1,000

Approximately \$200 to cover emergency purchases of supplies from distributors and local suppliers. The balance for distribution to U. of I. faculty to support cooperative research on specific projects.

TURF TWISTERS USGA Green Section Record

WATER

Question: What are the major mistakes made in automatic irrigation installations today? (Texas)

Answer: 1) Spacing sprinkler heads too far apart.

2) Main lines not "looped" to insure uniform pressure.

3) Too many heads under the control of one control station.

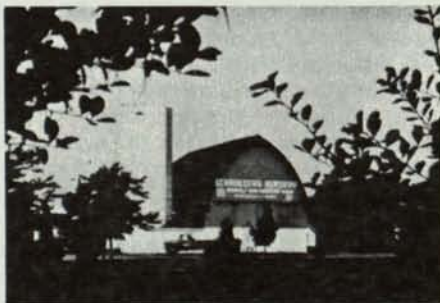
4) Sprinkler heads under the control of one station not placed at or about the same elevation.

WONDERING

Question: How long have the hormone-type weed killers been around, which one was it, and where was it first used? (New Jersey)

Answer: The first practical usage of a hormone weed killer was about 1943 and the chemical was 2,4-D. Its first usage on golfing turf was at the Chevy Chase Club in Maryland, the day after its selective weed control possibilities were recognized by the Green Section botanist, Dr. Fanny Fern Davis. Interestingly, since there was no commercially available formulations of 2,4-D (and 2,4-D is insoluble in water), it had to be mixed with heated 500 pound drums of Carbowax (a material that both dissolves 2,4-D and is itself dissolved by water and has a low melting point), and then carefully applied to the turf to avoid potentially disastrous drift with the crude sprayers of that day. We've come a long way since then.

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