



# UNITED STATES GOLF ASSOCIATION GREEN SECTION

## Southern Turfletter

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### SAFETY WITH PESTICIDES

Recent rulings by the Food and Drug Administration pertaining to the danger of using cranberries which have been sprayed with aminotriazole and poultry which has been treated with stilbestrol have received vast amounts of publicity. Such publicity has raised questions in the minds of many users of weed killers, insecticides, and fungicides, about the potential danger of the materials they use.

Many products used by the golf course superintendent are poisonous. All the chemicals on the following list are dangerous to some extent, some much more than others. All are useful tools in golf course management.

Aldrin	Dieldrin	Nicotine
BHC	Endrin	Parathion
Calcium arsenate	Heptachlor	Paris green
Chlordane	Lead arsenate	Sodium arsenite
Corrosive sublimate	Lindane	TEPP
DDT	Methyl bromide	Toxaphene

Should the use of these products be discontinued? Certainly not.  
But protective equipment and extreme care should be employed by the workmen who use these chemicals.

Protective clothing, boots, gloves and masks are, at times, uncomfortable. Temporary discomfort, however, may not be a serious matter when it is compared with the possibility of permanent disability or even death. The danger of pesticides should be explained to the users, safe methods of handling should be outlined, and protective clothing and equipment should be supplied. When adequate safety measures are observed, the danger of using pesticides is very small.

HOLIDAY GREETINGS TO ALL OUR READERS  
- from the Green Section Staff

### How Weed Killers Are Safety Tested

(Ed. Note: The following paragraphs are taken from a fact sheet published by the National Agricultural Chemicals Association.)

How safe are chemical weed killers? Detailed research is carried out to determine this. And it follows logical stages.

Research on toxicity begins as soon as a compound is found to have any potential use. The earliest tests are on acute toxicity to animals and humans. For the first thing scientists must know is whether the compound is safe for use in further experiments.

If the compound passes the early tests for safety and effectiveness, safety research goes into a new state. It discovers what kind of mammalian injury might be expected from exposure to significant amounts of the compound over an extended period of time. These studies are known as 90-day feeding tests. They are conducted on laboratory animals. Minute studies are made of the animals to determine what effects, if any, the compound has on organ systems and the skin. This provides information to be needed during manufacturing and handling of the material.

### Test studies expanded

When field testing begins, extensive studies are made of residues, if any, which are left on food crops. At the same time studies are made of biological effects on mammals. These determine whether the chemical is absorbed into the body, how much is absorbed, and what effects it has, if any.

The final step in evaluating a new weed killer involves large scale field testing. Long term toxicity tests are carried on at the same time. These are carried out on a variety of laboratory animals and continue over the normal life span of the animals. Test animals are observed constantly to determine absorption, excretion, and any biological changes that may occur. Such testing may run two or three years or more.

During this lengthy period many different scientists have tested the compound and have learned what happens when the material is inhaled, when it touches the skin, when minute amounts of residues are consumed. These are tough tests for the compounds. And many more are flunked out at the different stages of research than are promoted to advanced stages of study.

On the average from 300 to 2,000 different compounds must be tested for every new chemical weed killer which is found. Finding the one chemical which will do a better job is more challenging than finding a needle in a haystack. And it is much more expensive. Three to five years goes into the search to find a single new weed killer. The cost ranges from about \$700,000 per new chemical in a few cases to \$1,500,000 or more in most cases.

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#### BUDGET

Plan ahead, 1959 is practically over and you should be making notes and plans for 1960. You should have your figures assembled and beginning to shape up for your 1960 budget. Your 1959 costs should give you an indication of what will confront you in 1960. Put your budget in black and white, write it out in detail, put it on a business basis. If you do so it will be a lot easier to obtain the necessary funds from your board.

#### LOUISIANA TURFGRASS CONFERENCE

The 1959 Louisiana Turfgrass Conference was held at SLI in Lafayette, Louisiana. This was their third annual meeting. The arrangement for a golf tournament in connection with the turfgrass conference was successful in increasing the number attending and in bringing a number of new faces to the conference. The Louisiana Turfgrass Association is a young organization that is improving and one which may look forward to filling a useful place in promoting turfgrass culture in the state.

THE TEXAS TURFGRASS CONFERENCE was held on December 7-9 with an attendance of 174. Talks were excellent and enthusiasm was high. L. W. DuBose of Houston was elected president. He succeeds Charles Campbell of Midland. Other officers elected for 1960 are Kenneth Krenek of Corpus Christi, Vice-President; and Grover Keeton of Dallas, Executive Secretary.

#### TURFGRASS SECTION OF THE AGRONOMY SOCIETY

More than 125 persons, most of whom represent teaching and research agencies, attended the Turfgrass Meetings of the American Society of Agronomy held in Cincinnati in November. Twenty-three papers dealing with experimental work in turf were presented. Agronomists from numerous universities and experiment stations in the South attended these meetings.

#### CONFERENCE DATES

- January 28-February 6.....31st Annual Conference  
Golf Course Superintendents Association of America  
Shamrock Hilton Hotel - Houston, Texas
  
- February 22-23.....Southern Turfgrass Conference  
Claridge Hotel - Memphis, Tennessee

# ***Southern Turfletter***

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