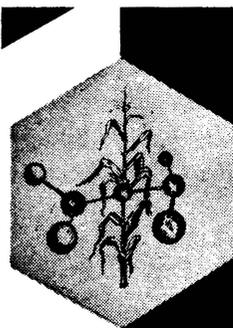


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CHEMICAL-DRUG-PESTICIDE

Reprinted February 1977

MCDP-11

PESTS, PESTICIDES, AND YOU

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In the twenty-sixth verse of the First Chapter of Genesis it says,

"And God said, 'Let us make man in our image after our likeness, and let them have dominion over the fish of the sea and over the fowl of the air and over the cattle and over all the earth and over every creeping thing that creepeth upon the earth!'"

Establishing this dominion has not been easy. The history of man has been a history of his fight for food, clothing, and shelter. He has had to fight fire, cold, floods, drought, insects, diseases, plagues, and pestilence. Along with battling the elements and the pests in his environment, man has had, and to a lesser degree, still has to wage a continual battle against superstition, ignorance, and the opposition of the closed mind.

There were many times in history when the bounteous land was shrouded with a fearful stillness. Insects clouded the sky, leaving in their wake splendid crops to wither and die. Strange diseases struck flocks and herds. Man was stricken by hunger, disease, and death. Throughout history there were times when no escape was possible.

Today we live in a land of plenty. Although some of us may have known some lean years, our children never have, and God willing, never will have to face the specter of hunger. Living as we do in this land of abundance, it is hard to realize that tonight and every night, 1/2 the world's population will go to bed hungry.

Why is it that we in the United States are the healthiest, best fed, best clothed, and most prosperous people in the world? A large part of the answer lies in the development of our industrial technology, which includes the industry of agriculture. We are all familiar with changes which have occurred in farming practices, introduction of machinery to the farm, and the development of improved crop varieties and fertilizers. One facet with which we are perhaps not as familiar is the development of, the need for, and the use of pesticides.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. W. E. Skelton, Dean, Extension Division, Cooperative Extension Service, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061.

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The matter of pest control is a very real and serious problem, which has a direct impact on each and every one of us. Many hidden enemies lurk in the soil, the fields, and the fence rows waiting for an opportunity to destroy our crops. Many other enemies lurk in our pastures, barns, and farmyards waiting to attack our poultry and livestock. Still other pests inhabit our homes, our backyards, and our flower and vegetable gardens. It is only through constant vigilance on our part that we can keep these enemies under control so that we can preserve the beauties of nature and produce the type of food and fiber which we have learned to enjoy and expect.

There are nearly 1,500 known plant diseases which cost the American people over \$4 billion a year. Over 6,500 species of insects attack our crops and animals causing billions of dollars loss each year. Weeds are in direct competition with desirable plants for food and water in the soil, and what they consume is utter waste. Poisonous plants are a continual threat to our health, safety, and happiness. All these things occur even with the use of pesticides.

Let's look for just a moment or 2 at what has happened when these pests were not kept under control. In 1845 and '46 the late blight disease struck the potato crop in Ireland. Destruction of this staple food crop brought starvation to 3/4 of a million Irish and caused well over a million to leave Ireland for other countries. In 1874 grasshoppers caused such a great food shortage in the midwest that Congress declared it a national disaster. In 1929 the Mediterranean Fruit Fly became epidemic in Florida. Hundreds of thousands of boxes of fruit had to be destroyed and an embargo was placed on all fruit shipments. As recently as 1946, tomato blight cut eastern crops in half. Many farmers stopped growing tomatoes and prices soared sky high.

So far we have considered quantity of agricultural products, but there is also the matter of quality.

We are no longer willing to tolerate weeds taking over our home lawns, or blackspot marring the beauty of our roses. Flies, ants, and mosquitos are unwelcome guests at our family picnics. Cockroaches in the pantry cause great consternation in the household. No doubt there are few housewives in the United States under 35 years of age who have ever purchased a wormy apple in a grocery store. We would be deeply horrified to find a tomato hornworm floating in our tomato soup or Mexican bean beetles in our frozen green beans. Without the proper use of pesticides, however, all of these things would become distinct realities.

There is one other factor of this broad problem that should be mentioned briefly. That is the effect of pesticides on human health.

There was a time when most of Europe and parts of Asia were stricken by probably the most devastating epidemic in history. It was a Holy Year in 1348 and many thousands of people trudged to Rome. By the time Easter arrived, more than 1,250,000 persons had visited Rome, but only 10% of them survived to return to their homes. The black death or bubonic plague has caused armies to collapse and empires to crumble. Shortly after 1900 there was an epidemic of plague on the west coast and 113 people died in San Francisco. It was not until about 60 years ago that scientists were able to identify the carrier of this monstrous killer of man. It was found that at least 25 types of fleas transmit the bubonic plague. It was not until the development and widespread use of modern insecticides that this terrible disease was brought under control.

Malaria has been traced by archaeologists back to the prehistoric times. A writer in India called it "the king of diseases". Three demons were blamed for it in ancient China. Malaria caused more casualties to G.I.'s in Sicily during World War II than did enemy operations. Malaria defies all vaccines and there is no positive cure. The only protection is to avoid contact with a female mosquito of a species which carries the malaria parasite. Since the discovery of DDT and other modern insecticides, malaria has been virtually eliminated from the United States. In India where the malaria rate was 75 million cases a year, the proper use of these insecticides has reduced this rate to less than 5 million.

Whether we are dealing with common house flies, cockroaches, or rats in our homes or places of business, or fighting a potential epidemic in Florida, or trying to save millions of lives from being taken by malaria and yellow fever in India, South America, and Asia, the use of chemical pesticides has become indispensable as an offensive weapon in protecting our health and happiness.

Pesticides are economic poisons and many of them are extremely toxic. If the preceding has successfully established the fact that the use of pesticides is essential if we are to maintain our high standard of living, the question then arises quite logically as to how we are going to be able to realize the benefits from the use of pesticides and still not be exposed to undue hazards.

Proper use is the key to pesticide safety. This really isn't an earth-shaking conclusion because actually isn't it also true with other conveniences in many of our every day operations? A car is a lethal weapon if not used properly. Aspirin kills over 200 people, mostly children, each year. How many times have we read or heard about "an overdose of sleeping pills". Then too, how about taking other people's medicines or using gasoline instead of lighter fluid? All of these cases of misuse, where a potentially useful item has been used improperly.

How do we know precisely what is "safe and proper use" of pesticides?

It is very simple. Read the label. It cost more than \$6 million in research and development to put that label on a pesticide container, yet you need to spend only a few minutes of your time to read it. That label is the "doctor's prescription" for use of the material. Read the label each time you are going to use a pesticide. We all can forget details between uses and between different pesticide products.

Let's briefly consider some of the things that we find on a pesticide label. First, we have a product name, which in itself gives us a clue as to the recommended use for the material. Then, there is a list of active ingredients which tell us exactly what and how much is in the mixture. This is followed by a list of recommended uses, and also points out any specific places where the pesticide should not be used. Instructions are given for mixing the material, if mixing is required, and how it should be applied. Many pesticides that are applied to food crops have time limitations before harvest. These are also given in detail. Precautions for use as well as hazards are pointed out. Antidotes are given in case accidental exposure should occur. There is also a Federal Registry number which clearly identifies the fact that this product has received USDA and FDA clearance.

In using any pesticides there are certain general precautions which should be observed:

- 1) Use the right material in the right amount in the right way and at the right time.
- 2) Never spray or dust when a wind is blowing.
- 3) Avoid contact, inhalation and ingestion.
- 4) Never smoke while mixing or applying pesticides.
- 5) Wash hands and face with plenty of soap and water after using pesticides.
- 6) Do not contaminate food or feed. Avoid dog's dishes, fish ponds, and bird baths.
- 7) Dispose of all unused spray.
- 8) Dispose of empty pesticide containers safely.
- 9) Keep pesticides locked up and out of reach of children and pets.

If the pesticide label is read and understood and the above simple precautions are observed, there should be no misuse and pesticides can indeed be a boon to mankind.

