MONSANTO AND THE ENVIRONMENT

Remarks by

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The following paragraphs are extracted from remarks made March 26, 1970, at Monsanto Company's 68th Annual Meeting of shareowners by Charles H. Sommer, chairman of the Board of Directors, and Edward J. Bock, president. The meeting was held at the company's World Headquarters in St. Louis County, Mo. Additionally, the back cover explains Monsanto's new pollution-control subsidiary.

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MR. CHARLES H. SOMMER: Paramount among today's and tomorrow's needs are the needs of society. And a company operating in the public interest is the only kind of company which will merit progress. Monsanto has been such a company in the past; Monsanto is such a company today; Monsanto will be such a company tomorrow — a company not only influenced by public opinion, of course, but also a company responsive to the requirements of a growing and changing society.

Take pollution. On the front pages, it competes with Viet Nam as a major issue of our times. We in Monsanto hope the day has finally dawned when all major elements of our society will work together to find effective measures for environmental control. This task is a necessary part of the new job we face, the job which Norman Cousins describes as "the management of our planet."

A healthy amount of concern is being shown not only about air pollution and water pollution but also about pollution of our land by solid wastes. Monsanto is working constructively in all three areas. In addition, there has been increased attention given lately to a fourth element disturbing our tranquility, namely pollution by noise.

And it's all attributable to the fifth element of pollution, people — to a world population due to double by around the year 2000. It is this fifth pollution — overpopulation — that has put all the pressure on the

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other four. But happily, the people are now aroused and determined to cure all five pollution ills.

As you know, it took many years for pollution to reach its present critical stage. Perhaps we can all say, in retrospect, it's too bad all major elements of our society didn't wake up sooner. But that's in retrospect. And let's face it: industry has contributed to pollution. Municipalities have surely done their share to worsen the problem, and so have public utilities. Yet, individuals are most blameworthy. And as individual citizens, we must face the fact that the fault is largely our own.

Perhaps citizens everywhere should agree — if I may paraphrase Pogo — "We have met the enemy and he is us."

Some remedies will come rapidly; others will take time and thought and skill and patience and persistence. But in any case, let's make certain our programs are motivated by a genuine desire to control pollution and not by mere political expediency.

It is interesting to see the younger generation take up this fight with plan and purpose. If the clamor of youth for improvement can stir a populace into wise courses of action, then we owe the young a sincere vote of thanks.

The young — idealistic and, above all, compassionate — are precisely the right people to be concerned about the quality of life tomorrow. For it is their life; and it is their tomorrow.

It is heartening to see so much effort being mounted for the teach-ins next month. Students at the University of Michigan, where much of the planning was conceived,

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have assured us every attempt will be made to keep the teach-in events constructive. To the degree this objective is achieved, students will find industry in general and Monsanto in particular willing to explore problems jointly, to promote dialogue in an educational manner, to probe for the best answers. Violence, threats, and confrontations breed friction rather than the sharing of information. Let us hope such elements are not the leading edge of the thrust; let us hope an objective educational atmosphere, continuing in nature, will be established and maintained.

Monsanto and many other companies have already participated in workshops and have shared information with others urging massive clean-up. Students, conservationists, ecologists and others will always find Monsanto striving for the same blue sky, the same clear water, the same uncluttered land. We also strive for equitable and reasonable standards divorced from political considerations yet dedicated to a public insistence on action.

Rhetoric about pollution abounds. And if this helps dramatize the problems and force solutions, it is probably helpful. Yet, there is a tremendous gap between rhetoric and commitment. At Monsanto, our commitment began long ago.

In the next three years, we will have capital expenditures of about $55 million for pollution control in the United States alone — plus a large amount beyond our borders. In addition, maintenance costs will exceed $30 million from now until the end of 1972.

Some observers have said, in recent months, that technology can't save us from this sorry mess. I do not share this despair.

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I ask you not to sell technology short. For technology can cure as well as cause. Technology *can* lead us to better and cleaner processes in all industries and *will* lead the way to retarding the despoilment of our fragile environment. The physical sciences, employed in their ultimate role, are indispensable in the struggle for a healthful environment, as man seeks to balance his own needs with nature's laws.

In a few minutes, our president will discuss the strong basic role of Monsanto's technology. He will also cover some important aspects of Monsanto's anti-pollution efforts, not only in our own plants but wherever Monsanto technology can help other industries improve the quality of life for all of us.

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MR. EDWARD J. BOCK: Mr. Sommer spoke earlier in regard to our concern about pollution and its many ramifications. Not only are we concerned with this problem, we plan to make significant contributions to its solution.

A few months ago we formed a new company that combines our pollution-control products in a single coordinated unit. The company, which we named Monsanto Enviro-Chem Systems, Inc., develops and installs equipment to curb several kinds of industrial and municipal pollution. Enviro-Chem is already marketing devices and systems to clean liquid and gaseous wastes.

Processes to get rid of solid wastes are well along in the development phases. Here in St. Louis County, we have been operating a

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prototype disposal plant. It employs a process called pyrolysis to eliminate up to 25 tons of solid waste daily — although plants to handle much larger quantities will be feasible. Most solid-waste disposal systems employ normal combustion in the form of incineration. But ours uses the pyrolysis technique to destroy combustible solids by applying heat in the absence of air. This prevents normal burning of the wastes and the pollutants that normal burning would produce.

The system can safely reduce all kinds of municipal waste — food, plastic, metal, glass — to an inert, solid by-product. In some cases, the final by-product may even have commercial value.

We are still developing data from the plant. But we expect to be discussing the merits of the process with potential customers this year.

Monsanto has also undertaken a five-point program to insure that any internal pollution problems are under proper control. First, we have formulated and circulated a hard-line pollution-control policy. Second, we have assigned a Monsanto vice president the job of coordinating all pollution-control policies and practices. Third, we have set up a committee to monitor pollution abatement at our 47 U.S. plants and at the manufacturing locations of our subsidiaries here and abroad. Fourth, I have given all divisional general managers a personal objective this year of inspecting their plants for any pollution problems. And, fifth, we have ruled that all requests for money to build production units must take the pollution problem and its solution into account in order to get approval.

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THE STORY OF MONSANTO ENVIRO-CHEM SYSTEMS, INC.

Late in 1969, Monsanto announced the creation of a wholly owned subsidiary, Monsanto Enviro-Chem Systems, Inc., which placed in one centrally controlled organization the bulk of the company's diversified pollution abatement capabilities.

Monsanto Enviro-Chem is concerned with pollution problems in water, air and solid wastes.

In water, for example, the company has a process based on the biological oxidation of organic pollutants in waste water. This process employs a number of innovative and improved methods including a new approach to aeration and agitation (when compared with conventional activated sludge waste treatment), a unique, patented, multistage trickle filter and new methods for the utilization of polyelectrolytes. This total oxidation system economically attacks a wide range of biologically degradable industrial and municipal waste waters, separately or in combination. Biochemical oxygen demand (BOD) removal in excess of 99 per cent can be achieved.

Our experience in air pollution control runs the gamut from gases and mists to particulates and odors. Specifics here include a mist eliminator that blocks emission of microscopic pollutants through the use of a filter process. Also there is a solution to sulfur dioxide emission which catalytically oxidizes and removes, as sulfuric acid, the sulfur dioxide in flue gas.

We are currently working on a unique solution to solid waste control centered on a pyrolysis operation to dispose of solid waste without resultant atmospheric or water pollution.

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