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1973 State Weed Conference

and

MONTANA WEED CONTROL ASSOCIATION

ELKS CLUB
MILES CITY, MONTANA
NOV. 15-16, 1973

PROGRAM
1973 State Weed Conference

Wednesday - November 14th

3:00-4:00 p.m.	Registration - Elks Building
4:00-6:00 p.m.	Tours: 1. Mobile Home Construction Company. 2. Pine Hill School for Boys. 3. U.S. Range Livestock Experiment Station. 4. Range Riders Museum.
6:00-7:30 p.m.	Board of Directors Dinner Meeting
7:30-9:00 p.m.	Registration - Elks Building
8:00 p.m.	Association Committee Meetings.

Thursday - November 15th

Morning - Chairman - Les Shumaker
Rosebud County Weed District

8:00-9:00	Registration
9:00	Invocation
9:05	Welcome - Mayor Dean Holmes
9:15	Presidents Address Philip Donally - Assoc. President
9:30	Secretary's Report Mike Jackson - Assoc. Secretary
10:00	Break - Sponsor, First Security Bank, Miles City, Montana
10:30	State Department of Agriculture Gary Gingery - Robert LaRue
11:15	State Department of Health and Environmental Sciences Kit Walthers
12:00	Luncheon - Elks Building

Afternoon - Chairman - Dale Benge.
Vice-President - State Weed Association

1:00 "Ecological Effects of Herbicides" and "Pesticide Disposal Techniques".
Dr. Alvin L. Young, Captain USAF
Associate Professor of Life Sciences
USAF Academy, Colorado

2:00 The Effects of Poisonous Plants on Livestock
Mr. A. Earl Johnson, Animal Physiologist
Poisonous Plant Research Laboratory
Agriculture Research Service - USDA
Logan, Utah

3:00 Break - Sponsor - First Nat'l Bank
Miles City, Montana

3:30 Question - Answer Session

4:30 Adjourn.

Evening

6:00 Banquet - Elks Building

Master of Ceremonies - Roy Patte
Golden Valley Weed District

Entertainment

Speaker - Dr. Alvin L. Young
Captain, USAF
"The Orange Controversy and Its Implications to Weed Control Programs".

8:00 Montana Weed Association Annual Meeting
President Philip Donally - Presiding

Friday - November 16th

Morning - Chairman - Walter Schillinger
McCone County Weed District

8:30 Annual Weed Control - Don Baldrich
Southern Agri. Research Center, Huntley

9:15 Biological Weed Control - Don Merkley, Supt.
Western Agri. Research Center, Corvallis

10:00 Break - Sponsor - PCA, Federal Land Bank

10:30 "Annual Weed Control and Small Grains".
Larry Baker, Plant & Soil Science,
MSU, Bozeman, Montana

11:15 "Response of Small Grains to Herbicide and Perennial Weed Control
Dr. Jesse Hodgson, Agricultural Research Service, USDA, MSU, Bozeman, Montana.

12:00 Luncheon - Elks Building

Afternoon

1:00 Demonstrations - Custer County Fairgrounds
Chairman - Bill Snapp
Fergus County Weed District

MONTANA WEED CONTROL ASSOCIATION

President - Philip Donally, Mineral County
Vice-President - Dale Benge, Powder River County
Secretary-Treasurer - Mike Jackson, MSU, Bozeman

1973 PROGRAM PLANNING COMMITTEE

Southeastern Area Weed Council

THE ORANGE CONTROVERSY AND ITS IMPLICATION TO

WEED CONTROL PROGRAMS

MONTANA WEED CONTROL ASSOCIATION

15 November 1973

During the past six years all of you have read with dismay and shock the press releases on the military use of herbicides in Southeast Asia. Most of you have even read, with interest, the articles appearing in SCIENCE-JOURNAL of The American Association for the Advancement of Science. These articles have been written by "distinguished" scientists and scholars. Hundreds of other articles and at least two major books (Ecocide in Indochina and Harvest of Death) have been published on this topic. Almost without exception they have damned the military use of herbicides and described what we have done as "A new and terrible dimension to warfare". Indeed, in frequent use are such philosophical statements as "Long after first-hand memories of the war's horror have faded, a crippled land will remain the legacy of our presence".

When the critics of the "Defoliation" program first began to speak out, you and I thought to ourselves "so what ... the use of those exotic herbicides (orange, white and blue) aren't going to affect my weed control program. After all, it is the military and it is in a land on the other side of the world ... besides, if worse comes to worse, it's really only 2,4-D and 2,4,5-T that they're talking about, and they are as safe as cherry pie, motherhood, and the American Flag".

(Ho, Ho, little did we know that attitudes change so suddently - now it's organically gorwn cherries, abortion is common and to hell with the Flag).

As the critics persued their relentless attack on the military use of herbicides, it became only too clear to us what was happening: bit by bit they were convincing the American people that these vegetation control chemicals were not just weed killers, but indeed a sneaky secret method of genocide. I quote to you a statement read into the Congressional Record, August 25, 1970, by Senator Gaylord Nelson: " Now there is a new advancement. Chemical compounds have been found that can destroy plants that man finds undesirable along his roads and highways. Science and Technology have produced chemicals that efficiently and economically can be used militarily to destroy the foliage suspected to be hiding an enemy or kill the crops believed grown to feed him. Unfortunately, like so many other of the rapid advancements of his society, man has created but another potential disaster. By engaging in warfare on the environment this country has taken the leadership in conducting a long range warfare on man himself and future generations, friend and enemy alike."

How has all of this come about?? Weed control and genocide?? Just what in the world has the military done to our honorable profession. Is it the military, or is it our own failure to defend weed control technology?

WHAT WE ALL NEED IS A GOOD HEALTHY DOSE OF PERSPECTIVE!!

To understand what has happened requires us to go back 30 years into history. Early in 1943 the Army's Chemical Warfare Service activated Fort Detrick at Frederick, Maryland. Its mission was to conduct research and development on chemical and biological antiplant agents. The early work was sensitive and highly classified, and publication of research data was withheld until the end of World War II. In June 1946, and entire issue of the Botanical Gazette was devoted to 18 select papers covering work accomplished during 1944 to 1945 on chemical growth regulators. Much of the research was conducted by Dr. E. J. Kraus, Head of the Botany Department at the University of Chicago, and Dr. John W. Mitchel, Plant Physiologist, USDA's Plant Industry Station in Beltsville, Maryland. They directed the synthesis and testing of nearly 1,100 substances, first in the laboratory and greenhouses and later in the field. From this array of chemicals 2,4-D and 2,4,5-T were shown to possess outstanding herbicidal properties, thus having great military and agricultural significance. The earliest military aerial spray trials were accomplished in 1944 and 1945 using smoke tanks hung externally on B-25 aircraft. Three different formulations were used in these tests. It was only a decision by President Roosevelt that prevented the use of these chemicals from being sprayed on the Japanese homeland - the option chosen, of course, was the Atomic bomb.

At the close of World War II, 2,4-D and 2,4,5-T were released to American agriculture and immediately workers at state agricultural experiment stations began the first extensive field testing of 2,4-D and

2,4,5-T. At the 1945 North Central States Weed Conference, Mitchel reported that treating pastures with twice the normal amount of 2,4-D produced no toxic effects in sheep and cows grazed on them. Further, after feeding a cow 5 1/2 grams of pure 2,4-D per day for three months, there were no ill effects either for the cow or for the calf fed entirely on milk from that cow. To clinch the point, Kraus announced that he had personally taken one-half gram per day for three weeks with absolutely no effect.

Backed with reports on effectiveness and no indications of shortcomings that would detract from those reports, the market for 2,4-D increased rapidly.

1945 - limited production - 917,000 pounds

1946 - 5,466,000

1950 - 14,000,000 At this time over 600 articles on the use of phenoxy herbicides appeared in the literature in a one-year period.

1960 - 36,000,000 pounds

1962 - 6,000 different formulations were available - increased specificity for particular weed problems in certain crops under differing soil and climatic conditions accounted for the bewildering selection.

In 1962, two billion dollars were spent by farmers to control weeds!!

1964 - 53,000,000 2,4-D

Concurrently - What was the military doing?

By 1951 it had determined that the vegetation - control chemicals of choice would be the n-butyl esters of 2,4-D and 2,4,5-T. While major emphasis was on delivery of these chemicals to crop targets, their use for defoliation and target marking also was considered. Because of the conflict in Korea and the possible need for vegetation-control sustems there, delivery technology was intensified. Fielding test occurred from 1951 to 1953 at which time the Air Force completed development on an operational capability for its employment, although it was never used.

In May 1961, Fort Detrick received a request from the Secretary of Defense on information on the technical feasibility of defoliating jungle vegetation in Vietnam. Technical judgement was made that if adequate resources were provided, militarily significant vegetation control could be demonstrated. In August of the same year eight different spray tests were conducted in Southeast Asia.

Even though tight security restrictions were imposed on the early efforts, the activities attracted considerable attention among friendly and enemy forces. Without full information on the nature of the tests and equipment limitations, an undue amount of controversy and criticism developed within official US circles. Attitudes of uncertainty, doubt, and perhaps even hostility towards the concepts per se placed the program in jeopardy. At the height of the controversy, General Maxwell Taylor and Mr. Walt Rostow, advisors to President Kennedy, visited

South Vietnam. The Presidential Advisors were impressed with what they saw and urged that the effort be continued. Subsequently, six C-123 aircraft were made available to the Tactical Air Command with a high-priority directive to install spray equipment capable of disseminating vegetation-control chemicals. On the 7th of January 1962, the USAF effort was named Operation Ranch Hand and the defoliation program began.

In the military sense, defoliation was the destruction and/or removal of target foliage by the application of chemical agents. The objective of defoliation was to improve vertical and horizontal visibility with a target area. The high incidence of successful enemy ambushers in Vietnam was the salient factor that influenced the introduction of vegetation-control systems into the Southeast Asia Conflict. The objective of Ranch Hand was to defoliate the vegetation along lines of communication (highways and waterways) to deny the enemy the safety of adequate cover and concealment. From 1962-1966 the defoliation program was an outstanding success. When used properly along roads, canals, lines of communication and around base perimeters it was responsible for the saving of thousands of lives of our troops. However, it was so successful that military leaders recommended its use for treating large forested area known to be enemy strong holds. Moreover, the use of herbicides for anticrop purposes was becoming more and more politically sensitive. This indiscriminate spray is what lead the critics to charge "Ecological damage". (Remember DDT!)

At home the American people were being baraged about the Vietnam War and about their own American Environment. Rachel Carson's Bood "Silent Springs" was on the lips of many college professors and students. More and more protest groups began to object to the use of herbicides in Vietnam but most in fact were more concerned with the war itself. A much smaller group, predominantly scientists, choose to criticize the use of herbicides on "scientific", economic, and/or political bases. The US Government was not insensitive to their pronouncements. The Ranch Hand program was continually under evaluation! Teams of scientists were sent from the US and each evaluation group recommended continued use of the vegetation-control systems. The conclusions being that defoliation had reduced the incidence of ambushes, had saved lives, and had disrupted enemy tactics. As a/l of you are now aware the blow that finally terminated the use of herbicides in Vietnam was a news release titled:

"Scientists Charge Plant Killer Causes Vietnames Birth Defects" in which the Bionetics Report on 2,4,5-T was first published. The charge was never proven, but the reaction by the public was overwhelming; within four days restrictions were placed not only on Orange in Vietnam, but on 2,4,5-T. Since that announcement there has been widespread paranoia about the phenoxy herbicides (eg., the Globe Arizona Incident). Twenty five years of use, experience and 10,000 publications mean nothing. We are being asked to prove a negative - that is 2,4-D and 2,4,5-T are not proven to be fully safe and never will be, nor will any other material ever be proven to be ultimately safe. The simple fact is that safety cannot

be proven. Whatever the tests of safety and however elaborate they may be made, we can always think of an additional, untested set of conditions under which the chemical may conceivably be hazardous. It can only be said that 2,4-D and 2,4,5-T have been tested under a sufficiently wide range of conditions to give reasonable assurance that when properly used their direct effect on animal life is negligible.

The point is not so much that we do not and cannot know all of the biological consequences of our actions, but that we lack a common ethic for decisions even when the facts are reasonably well known. Economic, social and aesthetic considerations all enter into the picture in matters of land and vegetation management. These conflicting interests have no common medium of exchange with which, for example, economic debts can be paid with aesthetic dollars. Economic factors are likely to take precedence over aesthetics for those who live on the land and extract their livelihood from it. For others, however, social or aesthetic values are more important. Unfortunately, for us it is the latter group that provide the vocal outcry that we have heard so much.

Perhaps the common currency in a democratic society for the settlement of such differences is the ballot. It, as all of you are aware from the question period, is the current trend to seek solutions in the political arena. Such solutions as you now know take the form of regulations and laws restricting or prohibiting the use of chemicals.

Loss of the phenoxy and related herbicides for agricultural use would be serious blow to this nation. It is unfortunate that the RISKS VS BENEFITS, cannot be explained to the American public before it is too late.

However, the fact that these chemicals have been extensively used in an unpopular war, combined with other doubts and suspicions may yet turn the tide in their disfavor!

What then should we do if the use of chemicals is lost to agriculture? Obviously, we do without the convenience and economy that chemicals have brought. When we lose modern conveniences, we return to primative ways. When the carpenter losses his skillsaw, he goes back to the handsaw. Sound biological management is available and indeed is much improved in recent years. There is still also the plow and I trust, the will to work.

Despite the current panic over the use of herbicides (and all pesticides) I do not believe that they will be outlawed. ..... April 1974 hearings will be critical. Moreover, sooner or later society will recover its sense of perspective. Indeed, we will probably approach our employment of chemicals in the environment with far greater wisdom for such perspective.