

Western Society of Weed Science

WSWS Business Meeting

March 20, 1986

Town and Country Hotel-San Diego, CA

The meeting was called to order at 7:26 am by President Harvey Tripple. He thanked Elanco for the breakfast. President Tripple asked for the reports of the various committees:

The Nominations Committee Report was given by Pete Fay. New officers for 1987 are: John Evans-President; Larry Mitich-President-Elect; Paul Ogg-Secretary; Bart Brinkman-Chairman, Research Section; Steve Miller-Chairman-Elect, Research Section; Robert Callihan-Chairman, Education and Regulatory Section; and Sheldon Blank-Chairman-Elect, Education and Regulatory Section. It was moved and seconded to accept the nominations committee report. Motion passed.

The Program Committee Report was given by John Evans. The poster section was a success in 1986 and members were encouraged to participate in the paper and poster sessions in 1987. 80 papers were presented in 1986. It was moved and seconded to accept the program committee report. Motion passed.

John Evans moved that the WSWS donate \$200 research gift to Scripps Institution of Oceanography for the participation of Jacqueline Parker-Director of Public Affairs-as luncheon speaker. Motion was seconded and passed.

The Education and Regulatory Section Report was given by Phil Olson. It was reported that the WSWS has agreed to give \$1,000 to CAST to support their Science and Agriculture Magazine. At the Regulatory and Education section of the meeting, about 50 individuals attended. Discussion was helped by Len Richardson, Editor, Agrichemical Age. Len guided the group into thought provoking ideas on how the agrichemical industry can defend itself. Good public relations was deemed critical, with the suburban public as the main audience. The 1987 Chairman of the Education and Regulatory Section is Robert Callihan. It was moved and seconded to accept the Education and Regulatory Section report. Motion passed.

The Local Arrangements Committee Report was given by Nelroy Jackson. He thanked his committee members for their help. The 1987 local arrangements chairman in Boise, Idaho is Oakford Bain. It was moved and seconded to accept the local arrangements committee report. Motion passed.

The WSSA Representative Report was given by Alex Ogg, Jr. The 1986-87 President of the WSSA is Jean Dawson-U.S.D.A.-Prosser, WA, and member-at-large is Larry Mitich-Univ. of Calif.-Davis, CA. The WSSA will raise their dues in 1987 from \$25 to 40(regular member); \$10 to \$20 (graduate students); and \$35 to \$50 (institutionals). The WSSA has stopped support of the "Weeds Today" magazine, but will begin publishing a new journal-"Weed Technology". The 1987 meeting of the WSSA will be held Feb. 4-6 in St. Louis, MO. It was moved and seconded to accept

the WSSA Representative report. Motion passed.

The CAST Report was given by Lowell Jordan. It was reported that CAST is financially sound. The American Association of Cereal Chemists joined CAST in 1985. CAST would like to support the Extension Service and Lowell desires inputs from WSSS members on how this and other support functions CAST might provide. It was moved and seconded to accept the CAST report. Motion passed.

The Placement Committee Report was given by Phil Leino. Indications are that job opportunities are not as plentiful as they were a few years ago. It was moved and seconded to accept the Placement Committee report. Motion passed.

The Public Relations Committee Report was given by Jack Schlesselman. Pictures of new officers were taken at the meeting for inclusion in the WSSA newsletter. Attendance at the meeting has been approved as credit toward PCA licenses. Jack will be the 1987 Public Relations Chairman. It was moved and seconded to accept the Public Relations Committee report. Motion passed.

The Student Paper Committee Report was given by Clyde Elmore. Winners of the student paper contest were announced: 1st place-Gwen Fleming-Washington State University-Advisor, Frank Young; 2nd place-Dwayne Martin-University of Wyoming-Advisor, Steve Miller; 3rd place-Don Morishita-University of Idaho-Advisor, Don Thill.

Dave Cudney-University of California-will be the Chairman for this committee in 1987. It was moved and seconded to accept the Student Paper Committee report. Motion passed.

Member-At-Large Report was given by Pete Fay. It was reported that all three WSSS Constitutional amendments proposed to the voting membership passed:

Old: Article VII-Standing Committee-Section 6; The Nominations Committee shall consist of a Chairperson and two members.

New(Amended): The Nominating Committee shall consist of a Chairperson, Immediate Past-President and two rotating members.

Old: The Committee for Nominations of Fellows and Honorary Members shall consist of the three most Immediate Past-Presidents of the Society.

New(Amended): The Committee for Nominations of Fellows and Honorary Members shall consist of three Fellows of the WSSS appointed by the President with advice and consent of the Executive Committee.

Old: The Society Representative to the WSSA shall serve three years beginning at the WSSA Business meeting in the year following the WSSS meeting at which the election is announced.

New(Amended): The Society Representative to the WSSA shall serve three years beginning at the WSSA Business meeting in the year following their appointment by the President with advice and consent of Executive Committee.

It was moved and seconded to accept the member-at-large report. Motion passed.

The Research Section Report was given by Ralph Whitesides.

Research Section Report

Ralph E. Whitesides

The 1986 Research Progress Report is 371 pages in length, contains 197 individual reports and represents contributions from 106 different authors. No papers were received for Project 3: Undesirable Woody Plants. The quality of the camera-ready copy for the Progress Report is generally good, however, authors must pay careful attention to margins, clarity of type, and timely submission of reports.

The Research Chairman for 1986-87 is Bart Brinkman, Velsicol Chemical Corp., 5130 2nd Ave. SE., Salem, OR 97302 (503-363-1934). Chairman-elect is Steve Miller, Plant Science Division, University of Wyoming, Laramie, WY 82071 (307-766-3112).

Chairman and chairman-elect of the Research Projects for 1986-87 follow:

Project 1: Perennial Herbaceous Weeds

Chairman: Donn Thill, Dept. of Plant, Soil and Entomological Sciences,
University of Idaho, Moscow, ID 83843

Chairman-elect: Phil Westra, Colorado State University, Fort Collins, CO
80524

Project 2: Herbaceous Weeds of Range and Forest

Chairman: Celestine Lacey, Dept. of Agriculture, Agriculture and
Livestock Building, Helena, MT 59620

Chairman-elect: Tom Whitson, University of Wyoming, Laramie, WY 82071

Project 3: Undesirable Woody Plants

Chairman: Diane White, Oregon State University, Forest Science Dept.,
Corvallis, OR 97331

Chairman-elect: Vanelle Carrithers, Dow Chemical Co., Davis, CA 95616

Project 4: Weeds in Horticultural Crops

Chairman: Lee Darlington, BASF Wyandotte Corp., 4609 Englewood Ave.,
Yakima, WA 98902

Chairman-elect: Rick Boydston, ARS-USDA, IAREC, Prosser, WA 99350

Project 5: Weeds in Agronomic Crops

Chairman: Ron Vargas, University of California, 128 Madera Ave., Madera,
CA 93637

Chairman-elect: Doug Ryerson, Monsanto, Co., Twin Falls, ID 83301

Project 6: Aquatic, Ditchback and Non-Crop Weeds

Chairman: Winn Winkyaw, Weed Control Program, P.O. Box 1980, Salt River Project, Phoenix, AZ 85801

Chairman-elect: Barbara Mullin, Montana Dept. of Agric., Agriculture/Livestock Bldg, Capitol Station, Helena, MT 59620-0205

Project 7: Chemical and Physiological Studies

Chairman: Fred Ryan, ARS-USDA, University of California, Davis, CA 95616

Chairman-elect: Jodie Holt, Dept. of Botany and Plant Sciences, University of California, Riverside, CA 92511

The reports from individual project sections are as follows:

Project 1: Perennial Herbaceous Weeds

Chairman - Galen Schroeder, Chairman-elect - Donn Thill

The research project meeting was called to order by Chairman Schroeder at 1:15 p.m. There were 69 people in attendance. Phil Westra, Colorado State University was elected to serve as chairman-elect in 1987. Rod Lym, Lloyd Haderlie and Galen Schroeder made opening remarks. Schroeder discussed the differences between annual weed and perennial weed control research techniques, the need for a multiyear approach to perennial weed research, and the concept of control versus eradication versus weed management. Lym discussed the need for a large main plot size at the onset of a perennial weed field experiment and how this relates to encroachment problems from one plot to another. Changes in forage production due to harvesting techniques was discussed. He also discussed the problem of nonuniform weed populations and visual control estimates versus quantitative-type measurements. Haderlie discussed the need for root versus top growth or year to year control measurements, selection of field plot locations, and greenhouse or growth chamber research versus field experiments. At this point the discussion was opened to the audience. Many of the above topics were further discussed. For example, it was felt that visual estimates of perennial weed control were as reliable, or in some cases, more reliable than actual stand counts, biomass measurements, etc. It was suggested that plot size should be at least 15 by 50 feet and that plot location be selected one year in advance of establishing a field experiment in order to reduce experimental variation. Other topics discussed were long-term control of established perennials and seedlings that emerge after the initial treatment(s), genetic variation within a population of perennial weeds, the acceptable level of probability for perennial weed experiments (e.g. 90 versus 95%), the need to monitor environmental condition at the experimental site for the duration of the experiment, experimental design, the need to precisely define experimental objectives, weed thresholds, allelopathy, integrated biological and chemical control of perennial weeds, and weed seed viability and longevity. The session adjourned at 2:50 p.m.

Project 2: Herbaceous Weeds of Range and Forest

Chairman - Mark Ferrell, Chairman-elect - Celestine Lacey

Mark Ferrell chaired the session and Celestine Lacey recorded the proceedings of Project 2. Approximately 40 people attended this discussion session. Nominations were opened for chairman-elect for 1987. Dr. Tom Whitson, Univ. of Wyoming and Doug Johnson, Cascade County Weed and Pest Administrator were nominated for the position. Tom Whitson won the election.

Subject 1: Livestock Grazing as a Method of Weed Control - moderated by Dr. John Brock, Arizona State University.

The purpose of this discussion was to review the use of livestock as a biological component in integrated weed/brush management on pasture and rangeland. For livestock to be effective as biological control agents, the following 4 conditions must be met:

- 1) Effective control of livestock is necessary
- 2) Target plants must be accepted by the livestock as forage
- 3) Presence of other forage plants than can replace the target species
- 4) Differential susceptibility of the target plants to grazing at some time of the year to aid in the control strategy

The differential classes of livestock (cattle, sheep, and goats) and their impact as biological control agents was reviewed. Cattle grazing appears to offer the least potential as biological agents for pest plants. However, studies indicate that they have effectively controlled aspen and Johnson grass in controlled grazing situations. Sheep have been shown to utilize leafy spurge and keep the plant from going to seed. Other examples of sheep grazing as a weed management tool include: the use of sheep to control tall larkspur and reduce poisoning of cattle grazing in the area; and the reduction of slender thistle, tansy ragwort, and barley grass. Goats have been successfully utilized as brush management tools in Texas and S. California chaparral. The major brush species in this area that were controlled were scrub oak, mountain mahogany, and less specifically chamise, manzanita, and California buckwheat.

Based on the results of published research, it appears that mixed livestock grazing holds potential for vegetation management, and biological control of weedy species may be achieved. The discussion group concluded that well-defined research is needed to begin to document the role of livestock grazing in the integrated pest management approach for pasture and rangeland improvement.

Subject 2: Herbaceous weed control in forests: Moderated by Jack Warren, Dow Chemical Company (retired)

The importance of herbaceous weed control in forest situations was reviewed. Mike Newton, Oregon State University, listed several advantages to weed control in forest regeneration:

- 1) Minimize animal damage especially of small rodents due to an increase of exposure and subsequent predation
- 2) Weeds increase stress of young tree seedlings especially under drought conditions
- 3) Releases trees from competition
- 4) Trade-off between herbs and shrubs and tree competition

Diane White, Oregon State University, discussed the results of research conducted in Oregon which measure tree survival and growth in weeded and unweeded plots. The data indicated that herbs had more of an effect on the trees than the larger woody species such as manzanita.

Subject 3: How to confront anti-pesticide groups in an effort to deal effectively with misinformation concerning pesticide use. Moderator - Dr. Wendell Mullison.

The discussion centered around the need for public relation programs that would involve the urban public. Dr. Mullison noted that only 2% of the American public was involved in farming, yet most of our educational programs were targeted toward this group. We must educate the non-agricultural public about the impact of weeds on recreation, such as fishing, hunting, rafting and sight-seeing, and wildlife populations. Without the urban population, we cannot obtain legislative support for pest control programs.

Project 3: Undesirable Woody Plants

Chairman - Bruce Kelsas, Chairman-elect - Diane White

Three broad discussion topics were addressed:

- 1) How do disturbances, such as grazing, cutting or burning alter a plant's susceptibility to herbicides
- 2) How rapidly do herbicides translocate in woody plants, and how does top removal after application affect sprouting
- 3) What long-term trends are emerging from brush control in forests

Little formal information was presented for topics one and two above, although much fragmented empirical information was discussed. Effects of phenology, age of plant, season of disturbance and application were determined to play a role in plant response. Herbicide movement into plants was generally regarded as rapid, and translocation sufficient to inhibit or prevent sprouting was completed by a few weeks after application.

The long term effects of weed control in forests was discussed in a crop tree performance context. It was observed that brush and herb control shifted the trajectory of a number of tree growth parameters resulting in growth gains.

Elections were held for chairman for the 1987 meeting and chair-elect for the Fresno, California meeting in 1988. Diane E. White, Oregon State University, was elected chair for 1987. Vanelle F. Carrithers, Dow Chemical, Davis, California, was elected chair for 1988.

Project 4: Weeds in Horticultural Crops

Chairman - Ron Brenchley, Chairman-elect - Lee Darlington

- I. The comparative strengths and weaknesses of Poast, Fusilade, Select, Assure, BAS-517, Verdict, Whip and Ro 17-3668 were discussed for controlling foxtail, annual bluegrass, barnyardgrass, rabbit foot, wild oats, annual ryegrass, bromus sp., quackgrass, bermudagrass and Johnsongrass. For control of Setaria sp. Poast = Assure = BAS 517 = Verdict = Ro 17-3668 > Fusilade. All compounds were ineffective for control of annual bluegrass except Verdict which gave partial control.

For control of barnyardgrass Poast = Fusilade = BAS-517 = Verdict = Ro 17-3668 > Assure. Rabbit foot grass control was excellent with Poast, Fusilade and Assure. Wild oats control was Fusilade = Assure = BAS-517 = Verdict = Ro 17-3668 > Poast = Select > Whip. Annual ryegrass control was Poast = Fusilade = Select = Assure = Verdict = Ro 17-3668 > BAS-517 >>> Whip. Bromus tectorum control was greatest with Assure = BAS-517 = Verdict = Ro 17-3668 > Fusilade > Poast = Select. Dallasgrass control was good with Fusilade. Quackgrass control was best with Assure = Verdict > Fusilade > BAS-517 > Poast. Johnsongrass control was best with BAS-517 ≥ Fusilade > Verdict > Poast = Assure. Surfactant preferences were as follows: Poast needs crop oil, Fusilade needs non-ionic surfactant X-77 etc. Select needs crop oil or oil concentrate. Assure needs non-ionic surfactants, BAS-517 needs oil concentrate. Verdict appears to have toxicology problems which cloud the future of this compound.

II. Living mulches in Horticultural Crops

Various grass species are being evaluated to determine which are best suited as candidates for a cover crop in various crops. Oregon State University reports Elka perennial ryegrass shows promise. The purposes of living mulches are for erosion control, traffic ability, and weed suppression. Studies are being conducted at University of California by Clyde Elmore to determine moisture and nutrient losses in crop due to living mulches. They are also studying water penetration, and disease, insect and rodent interactions with crop plants grown under living mulches. Concern was voiced as to the shift of annual plant communities to perennial weed types which could offer severe management problems. Chemical mowing of grasses using low rates of Poast, Fusilade or other graminicides as a tool to reduce competition of living mulches to crop plants was discussed. Concept was highly practical. Again much research is needed to determine the optimum plants (grasses or legumes) to be used as living mulches in any given crop. It was concluded that with certain crops, bare ground vegetative control was highly desirable (example: citrus, almonds, etc.)

III. General discussions initiated for unresolved problems in horticultural crops included:

- a) Black nightshade control in Solanaceous crops
- b) Nutsedge control in all crops
- c) legume control in grassy cover crops
- d) Dodder control in tomatoes
- e) Field bindweed in all crops

Generally no solutions which have not been tried already were offered to resolve the above problems. Solutions are still being sought.

The chairman for 1987 is Lee Darlington and the chairman-elect is Rick Boydston. Forty-two people registered for the session and sixty people were present.

Project 5: Weeds in Agronomic Crops

Chairman - Steve Miller, Chairman-elect - Ron Vargas

Doug Ryerson, Monsanto Chemical Co. was elected as chairman-elect for the 1987 meeting.

Subject 1: Weed spectrum change with reduced tillage.

Weed spectrum changes were discussed under a no-till wheat culture. In general there appeared to be a feeling that annual weed populations were generally reduced, and perennial weed populations increased under a no-till wheat culture. Examples were expressed as follows:

Wyoming -- Less wild oats and mustard but increases of Canada thistle and kochia. Wild oats populations were also reduced when nitrogen fertilizer was banded as opposed to broadcast.

Tennessee (humid areas of the East) -- No-till systems cannot be maintained for more than 3 years because perennial weed population increased to such an extent that plowing was necessary.

Iowa -- All perennials increased under reduced tillage, except for field bindweed. Canada thistle has also been a problem. No-till will only last 3-5 years before perennials take over.

Kansas -- Same experience as Iowa with field bindweed. In a study comparing continuous wheat, wheat-fallow, and wheat-sorghum-fallow; all reduced tillage programs reduced field bindweed populations compared to a continuous wheat system. Tillage plots have had a trend for increasing field bindweed populations.

Washington -- Southeast Washington has experienced annual grasses such as bromes and jointed goatgrass, being a major problem in no-till systems.

Southeast U.S. -- Johnsongrass becomes a major perennial weed problem in a no-till system.

California -- No-till systems do not fit into the irrigated, and cropping sequences of the arid west.

Little information is available on modeling of no-till systems, but Robert Norris (Univ. of California) is working on a model to predict shifts of weed species under different cropping patterns.

Plot size to research no-till systems was discussed. Plots will need to be large. Discussed the possibility of using set aside acreage, but because a crop will be harvested from land, ASCS office will not allow land to be used for this purpose.

Overall objective of no-till systems.

Growers will not adopt unless a yield increase is realized. There also has to be a lower per unit cost of production.

Soil conservation and soil moisture conservation are also benefits to a no-till system, but the growers main concern is profitability.

Subject 2: Herbicide Persistence in Soil

Robert Norris (University of California) has done plant back studies after three years of hexazinone applications to alfalfa. Paper presented in the agronomy research section.

Discussion centered around the problem of predicting if a problem may arise in subsequent crops after herbicide application.

Methods discussed:

1. Modeling -- Models available in England that will predict rate of herbicide breakdown in soil, but none are available in U.S.
2. Bioassay -- Can be useful but needs to be used with caution. Factors that determine results include soil sampling technique, soil type, rainfall, type and variety of bioassay plant used.

Disadvantage of this method is the approximate lag time of 4-6 weeks between sample and results.

3. Chemical test -- Rapid analysis for triazine available. DuPont is developing methods of determining chlorsulfuron levels in the soil.

Plant back restrictions and information can usually be found on product labels. California Department of Food and Agriculture is going to begin enforcing plant back restrictions.

Herbicide persistence and subsequent crop injury is becoming more important due to the new herbicide chemistry of sulfonyleureas and imidazalinones.

Project 6: Aquatic, Ditchback and Non-crop Weeds

Chairman - Dave Spencer, Chairman-elect - Winn Winkyaw

The chairman for next year is Winn Winkyaw, Salt River Project, P.O. Box 1980, Phoenix, Arizona 85801. Barbara Mullin, Montana Department of Agriculture is chairman-elect. Thirty-one people attended Project 6. The discussion centered on weed control practices in rice.

Project 7: Chemical and Physiological Studies

Chairman - Phil Peterson, Chairman-elect - Fred Ryan

Dr. Jodie Holt (Dept. of Botany and Plant Sciences, University of California at Riverside) is the new chairman-elect.

Approximately 90 people were in attendance. A lively discussion took place on the impact of chemical control of weeds on the environment. The role of weed scientists in the formulation of public opinion on this topic was questioned. The responsibility of Weed Scientists to educate people on the risks and benefits of herbicide usage was discussed.

It was moved and seconded to accept the Research Section report. Motion passed.

The Site Selection Committee Report was given by Paul Ogg. The 1990 meeting of the WSWs will be held March 13-15 at Ascuaga's Nuggett in Sparks, Nevada. It was moved and seconded to accept the site selection committee report. Motion passed.

The Treasurer and Business Managers Report was given by J. LaMar Anderson. The Society netted \$2,993.57 in 1985 and now possesses a net worth of in excess of \$43,000.

The Finance Committee Report was given by Sheldon Blank. An audit of finances showed excellent records and soundness of WSWs assets. The society now possesses in excess of 2½ years operating capital. It was moved and seconded to accept the Business Managers and Finance Committee report. Motion passed.

The Necrology Report was given by Pete Fay. He reported that Lee Burge and Ray Meyer had recently passed away. It was moved and seconded to accept the Necrology report. Motion passed.

The meeting was opened for New Business from the floor. Elaine Hale moved that the WSWs Executive Committee in conjunction with CAST set aside a contingency fund of \$2500 to investigate the physical and financial feasibility for producing a children's television program. The purpose would be to further educate elementary children about agriculture in general. The motion was seconded and discussed. Motion passed. Lowell Jordan indicated CAST would consider the motion at their summer meeting. He will put together a letter for the WSWs to CAST containing Elaine Hale's motion and information. No further new business was brought to the floor.

President Tripple presented his closing remarks and thanks to the WSWs membership. He called up John Evans and passed the gavel and responsibility to the new President. John Evans presented an appreciation plaque to Harvey on behalf of the WSWs. It was moved and seconded that meeting be adjourned. Motion passed and meeting was adjourned at 8:37 am.

Respectfully submitted,

Sheldon Blank-Secretary WSWs