

WESTERN AREA WEED CONFERENCE

Denver, Colorado
Thursday morning, June 16, 1938

The first annual meeting of the Western Weed Control Conference was called into session by H.L. Spence of Idaho, acting Chairman.

Mr. Spence: (Idaho) We tried to work out a program for this conference, which is an outgrowth of two former meetings, the last of which was held at Tacoma, but as we have no formal papers, we will throw the meeting open for individual discussion.

I think you are all aware that in the past a number of individual organizations have devoted a lot of time to weed control. A great deal of credit is due the Quarantine Board for making it possible for ... (not legible) ... for that reason we are combining this meeting with theirs. At Boise last August representatives of six States met in a discussion with Henry Wallace, the Secretary of Agriculture, to present him a picture of our problems in the Western States. It was also decided at that meeting that an annual symposium be established to bring together the ideas of the different Western States under the name of the Western States Weed Control Committee. No formal organization was set up. We have now decided to effect a permanent organization and the first thing we should do is to elect officers and set up our By-Laws.

The meeting these next two days will be informal in nature, and I want you all to feel that you are a definite part of the convention, even though we will have to limit some of the speeches. I hope we accomplish a great deal toward a permanent organization.

As you all know, this board has been set up to correlate the work in the eleven Western States. We are fortunate in having with us today representatives from Kansas and Nebraska. We welcome them and hope they will get information that will be valuable to them in many ways. There is a definite need for coordinating and correlating the weed ordinances in the Western States, yet we are still working as individuals with no opportunity to correlate our programs and with no attempt to direct objectives that we might all get behind. I think there is some disagreement on objectives and during the process of the meeting these will be outlined.

In the program today we planned to start out with the election of officers, then to have a ten minute discussion of each State represented here as to weed problems, research, education and any ideas the delegates wish to present to the committee. A discussion of educational needs is a basic and most important subject in any weed program. Definite objectives for weed control, research needs, legislative needs, uniformity in our weed and seed laws, are things that we need and should work out at this time. Those of us who deal with weed or seed laws know that we must coordinate those laws. Another important item is the New Federal Seed Law now before Congress.

Mr. G. R. Hyslop, who has been in Washington and who was present at the discussion of this bill, will give us a lot of help on our discussion this morning.

The first thing will be the formal organization with the election of a Chairman for 1939 and possibly a secretary, as was originally planned. Mr. Hyslop, is there anything you

might wish to add?

Mr. Hyslop: (Oregon) I believe not. You have outlined everything very clearly.

Mr. Corkins: (Wyoming) I believe at this time we should proceed with the nomination and election of officers. I see no reason to make any change in the chairman and I move that Mr. Spence remain chairman of this board for next year, and that W. S. Ball be nominated secretary for this as well as next year's meeting.

Mr. Hyslop: I second the motion.

Chairman Spence: I really feel there are a good many here who could start this organization off better than I, although I am very much interested in it.

Mr. Corkins: I rather think it is going to be important to have a Secretary-Treasurer. I suggest that the nomination for Secretary Ball be changed to Secretary-Treasurer.

Chairman Spence: You have heard the motion, what is your vote?
Motion carried.

J. I. Griner: (Washington) I think a Vice-Chairman should also be elected so he could take over should anything happen to the Chairman. I nominate Mr. Corkins for Vice-Chairman.

Speaker: Second the nomination.

Chairman Spence: Mr. Corkins has been nominated for Vice-Chairman. What is the pleasure of this board? Motion carried. Are there further nominations? If not, Mr. Corkins is our Vice-Chairman.

Now, to get on with the program. We'll start out alphabetically with a short talk, not to exceed ten minutes, from each State. I think it would be well at this time for each

individual to stand and announce himself. In that way we will get an idea who is present. I am glad to see so many representatives from the United States Department of Agriculture. We will start with Dr. O. C. Bartlett of Arizona.

Dr. Bartlett: (Arizona) Mr. Chairman, as a State, Arizona has neither definite weed laws nor a program. The Counties are in a position under statute to declare weed districts and to clean up on some weeds, such as Johnson Grass. That sums up the situation, and I didn't take ten minutes.

Chairman Spence: Mr. Ball of California.

Mr. Ball: (California) California has laws, but like all other laws we are not always financially able to carry them out as written in the statutes. We have a State organization of County Agricultural Commissioners and with the cooperation of the State and the Counties we have a well rounded regulatory set-up which has been very effective. We find it rather difficult to tell an individual to eradicate a weed when we, as officers, do not know how to do it. Therefore, our work has been chiefly service and education. We probably have 90% of the weeds that grow and, naturally, we have some very serious problems. In California we also have conditions favorable to any plant that might be introduced. We have a coastal area and a desert area below sea level, as well as mountain areas.

Our three important problems are Camel thorn, Artichoke thistle and Austrian field cress. Monies have appropriated by our Legislature for their eradication. Another major problem that we have is a Statewide WPA project which was approved about a year ago. This project has been operating

very smoothly and wherever we have had good supervision we have accomplished results. Therefore, our main objective is to get good supervision. Under that set-up we have organized our particular WPA program into sub-units so that all projects must be O.K.'d through our office before they are allowed to operate. One of our serious secondary problems is Klamath weed, which has gotten a foothold and taken over thousands of acres in our best range area along the northern coast. Then, too, we have White-top, Russian knapweed, White horse nettle and Morning glory.

The California Seed Council has done some good work and helped a great deal on our weed program. Recently, some screening legislation which we considered very important was supported. The Seed Council is an organization composed of representatives of other organizations, such as seed dealers, hay, grain and feed dealers, representatives from the Extension Service and Research Department of the University, State seed laboratory and weed service of the State Department of Agriculture, Farm Bureau, Grange and County Agricultural Commissioners. Three meetings are held each year and many seed problems have been discussed and cleared up.

Chairman Spence: Let us now hear from Colorado.

Dr. L. W. Durrell: (Colorado) I have very little to say as I have been out of touch with the subject of weeds for twelve years. I came to Colorado as a Plant Botanist some fourteen years ago. We had always thought of weeds as something like the weather, a lot written about it and a lot talked about it, but very little done about it. We have inaugurated research of one kind or another, and I am happy to say that we have had

excellent help. I believe Mr. Thornton, who carries on the research, might add further to this report.

Bruce J. Thornton: (Colorado) I didn't come down here to say a whole lot, and I think perhaps I will pass the buck on to Mr. Tucker. We are faced with two very important problems -- lack of finances to carry on our weed research program and the irrigation problem. Chlorates are the most successful of the chemicals and in most cases two years will do the job. The labor and cost involved are considerably less than for other chemicals. I am very happy to have the assistance of R. H. Tucker in the Extension Division, and I think he can give you a bird's-eye-view of the State.

G. F. Stallings: (Utah) What kind of weeds do you have? Bindweed?

Mr. Tucker: (Colorado) We certainly have our share. The weeds, in order of their importance, are: Bindweed followed by White-top, Poverty weed, Canada thistle and Russian knapweed. In our annuals the situation has been rather acute with a heavy spread in the last few years. The people had become quite concerned in Colorado, and although the situation has improved somewhat in the last three or four years, they had looked on it as hopeless. I believe that was one of the reasons they wanted State and Federal help. Now people are going at the job and figuring the best way to get it is to use individual help, and we have encouraged that attitude.

We have been using chlorates for ten or fifteen years at the rate of one or two cars a year at first, and in the last two years ten or fifteen cars, possibly more. We are using them largely as a preventive. If a man knows what to

do and what to use without having a lot of expensive equipment, and gets results, then we are more apt to get places. Six pounds of chlorate to a square rod will make a complete kill in 50% of the cases. Re-treatment is sometimes necessary and six pounds more will generally work. This is a large problem and we need a great deal more information.

We have no particular seed laws in Colorado, but there is an item that you might be interested in which we have been carrying on in connection with seeds. Our County Agents have taken samples of seeds from drills when planting and tested them in the seed laboratory. This has resulted in some startling information. They have found that 80% of the farmers in a community were planting noxious weeds. I think that program has served to center the attention of people on individual responsibility.

Chairman Spence: Mr. Tucker brought out one point which we have included in our program. That is the need for a great deal of work in an educational way on seed laws and weed laws and also seed buying, and is one of the most important links in our program.

Mr. Stallings: Is it possible to cultivate Bindweed and get results?

Mr. Thornton: In our tests we originally started out cultivating each week. We now have set up a new series that is somewhat similar in which we started three and six days after emergence of the plant. We found, however, that three weeks' cultivation gave us the same results.

Mr. Stallings: Did you have plenty of moisture in the soil?

Mr. Thornton: It was on dry land. The earlier we began our

operations the better the results.

Chairman Spence: Part of the program this afternoon will be devoted to discussion, and some of these questions in technical procedure and methods will be considered. We will now hear from Nevada.

Mr. Schweis: (Nevada) Nevada has no lengthy report to present to this conference. Owing to an understanding arrived at by the members of the Western Plant Quarantine Board, all State reports were to be short, as entirely too much time had been consumed in the past owing to the limited time allotted for each conference for lengthy State reports that dealt only with matters which were of importance to that particular State.

Nevada has had a noxious weed law on the statute books for several years and with the limited amount of funds available, considerable progress has been made in controlling weeds in some of our Counties. Progress has been slow and our results have not always been as satisfactory as hoped for, as much of the work done has been by the trial and error method.

Considerable amounts of so-called calcium chlorate have been used with varying results; carbon disulphide has been used to a limited extent, but, as we all know, these chemicals are entirely too expensive to use on large acreages of weed-infested land, so control practices by the use of these chemicals were largely abandoned during the past two years, and programs of intensive cultivation inaugurated instead.

Our principal noxious weed - "White-top" - (*Lepidium draba*) has responded favorably to the cultivation method of control and several hundred acres have been turned back to the owners free of weeds. Chemicals are still used to a limited extent in

freeing fence rows and ditch banks of weeds which cannot be reached by cultivation.

A WPA project was considered for enlarging the weed control program, but no assurance could be given by the WPA officials that funds would be available for a period longer than six months, so it was deemed inadvisable to start a large scale program until such time as assurance could be had that funds would be available to carry the project to a successful completion.

A determined effort is now being made to have the rules and regulations governing the use of CCC Camp labor modified to allow these men to combat weeds on land regardless of ownership, and if these efforts are successful, much good can be accomplished by this agency. All efforts pointing to this modification have been unsuccessful to date, but various interested agencies in Nevada are continuing to press the matter at every opportunity.

Mrs. Florence Bovett, Secretary of the Nevada State Farm Bureau, and a member of our State Weed Committee, had expressed her intention of being present, but in looking over the delegates here this morning I find she is absent. However, I notice that Wilbur H. Stodieck, County Agent of Douglas County, also a member of the State Committee, is present, and as Mr. Stodieck has had a weed control program going in his County for the past several years, I will call upon him.

Mr. Stodieck: (Nevada) We started out with a program in 1930 working on the White-top and eradicated two-thirds of it. We found that a heavy application of chlorates -- a light application first with persistent follow-up, gave very good results.

Some clean-up work is done with carbon bisulphide. So far progress has been carried on by voluntary workers and farmers. We feel the weed laws should be strengthened.

Chairman Spence: New Mexico present? If not, Professor Hyslop of Oregon.

Mr. Hyslop: We started out a number of years ago with a district weed law, with the belief that if we were to get weed control we must have local sentiment behind it. The weed law has been working satisfactorily for a number of years. We believe the district feature is very desirable in that it enlists local support of the people who recognize the necessity for control.

I feel one of the objectives of this conference is to try and develop more standardization along weed standard principles. One of the things we are stressing is an educational campaign. We have developed a very extensive set-up of weed control in the offices of our ten branch Extension Stations. This is in the nature of good mounts which are going into a number of farm organization halls. We have found that a great many people simply don't know that they have some of these weeds, and we believe in getting out this illustrative material so farmers will be able to recognize some of these bad pests. We have a seed council that reports the seed producing interests of the State. We believe disposition of screening is very important. We have gotten some very good results from CS₂, borax, sinox and chlorates. \$7500.00 has been appropriated for weed research.

Chairman Spence: Washington will be heard from next.

Mr. Griner: Washington has been more backward than any other State in introducing weed control. Up to last year when a law

was passed permitting some control, we had practically no laws. We have a number of noxious weeds, but one of the biggest problems we have is in the seed that farmers use, both that locally grown and that which is shipped in. 20% to 40% of the seed comes in by mail that we cannot get. The State of Washington is glad to see this organization starting and hopes to cooperate and work with you in every way.

Chairman Spence: Mr. Russell, can you add anything?

W. V. Russell: (Washington) Kittitas County, which is my home, has gone into this problem more thoroughly than any other in the State. One of the worst problems is to get control of our water sheds. Most of our land is irrigated and we find that many of our noxious weeds along streams and creeks are being spread on the farm land by irrigation. With the help of the public funds the County is putting in several thousand dollars each year. We used \$12,000 last year, and will use approximately the same amount this year. What appeals to me as being necessary is a widespread educational program. I find in my work that many of the people do not know what their weeds are. They are anxious to go ahead, but just do not know one weed from another. I am very much in favor of this seed law so that we can eliminate those noxious weeds.

Chairman Spence: The next report will be from Mr. Corkins of Wyoming.

Mr. Corkins: Our program in Wyoming at the present time is primarily on White-top, which is our worst offender. Three others which follow closely are Bindweed, Canada thistle and Russian knapweed. Also Leafy spurge, Perennial sow thistle and the White ragweed are giving us a great deal of trouble.

We have somewhere between 15,000 and 20,000 acres of these Perennial weeds.

From our experience in noxious weed control in Wyoming we have some very definite ideas on policy and program on the noxious weed control campaign, the most important being that of educational work, and a regulatory program carried out on the Perennials. We also have a Pest District Law which has been in operation for five years, similar to that outlined by Mr. Hyslop of Oregon. In carrying out our program we do everything in the world we can and then if we are finally up against it, we depend upon regulatory measures. When we started our work in Wyoming, we soon found that a good deal of this noxious weed problem could not be put up to the individual entirely. We have a split expense control which is one-third State, one-third County and one-third individual. So far as operation is concerned in each district, the law provides for an official County Pest Control Commissioner, who has the same authority as any of the officials in the Department of Agriculture.

The major problem facing us is that of finance. We have operated three years and 800 acres of weeds have been eradicated, about 3% additional acreage on the basis of our entire infestation in the State. We have an appropriation of only \$35,000 for the Perennials and we are spending \$60,000 to \$65,000 a year, and we know we are not controlling or eradicating noxious weeds in Wyoming. We are not moving fast enough. Just how we can move at the rate of one-fourth mile a year in fifteen or sixteen farm units we don't know. The average cost per acre has been about \$100. The question of noxious weeds on Federal-owned

land is not receiving attention. The Indian Reservations are heavily infested with noxious weeds, but we can't get cooperation from the Indian Service. Research is another major problem.

Mr. Ball: Were the 800 acres of weeds that you eradicated Perennials?

Mr. Corkins: Yes.

Chairman Spence: We will now hear from Earl Hutchings of Utah.

Mr. Hutchings: Weed eradication is under the supervision of Utah State Bureau of Plant Industry. The necessity of a Weed Control program has been realized for sometime; a State Supervisor has been appointed; we have a weed and seed law, and also a pest law. A vast volume of land is infected with noxious weeds, among which are Bindweed, White-top, Russian knapweed and Canada thistle. We have a seed quarantine under which all seed entering Utah is subject to inspection and must carry a certificate showing germination and weed content of the seed. Quarantine is enforced to the letter and inspection and analysis are made of all seed entering the State through common carriers, railroad systems and any other way, except the United States mail.

Another problem of this meeting is to find some way to control the exchange of seeds between farmers. We find that the source of spread through our irrigation system is also a great factor in weed spread.

Chairman Spence: We will now hear from Selvoy J. Boyer, also of Utah.

Mr. Boyer: (Utah) We are primarily interested in prohibiting the planting of infested seed. If you have ever lived on a

farm or worked on one, you will know that only one acre out of every three is any good, and that 100% instead of 80% of the seed is infested.

Chairman Spence: Ward C. Holbrook.

Mr. Holbrook: (Utah) Utah is making an effort to inspect the seeds before they get into the State. We discovered that practically all of the beets coming in were carrying Morning glory seed, so we decided it was best to keep them from the State. I would like to hear more on the subject of CS₂ before I leave the convention.

Chairman Spence: We will now hear from D. C. Caylor of New Mexico.

Mr. Caylor: (New Mexico) This subject of weeds is entirely new to us in New Mexico, and I came to see what I could find out. We have no weed or seed laws and have made no particular attempt to control noxious weeds in our State, therefore, I will be of no value to the conference.

Chairman Spence: Is Montana represented? If not, we will hear from A. Yost of Kansas.

Mr. Yost: (Kansas) We have had weed laws in the past. Kansas has a law that is backed by the State up to 50% of the cost of control. This law is practically new, having been in effect only since 1937, and we are now operating under it. Chemicals are sold to land owners at half price and the whole program has generated a tremendous amount of interest. Of course, we do need a lot of experience as the work is still very new. As far as compulsory eradication is concerned, we are trying to work at that from the practical standpoint. It is impossible to expect any man to eradicate a large amount of Bindweed, and

we are only expecting what is practical and what is possible to do. Out of 100 acres he can possibly eradicate 10 acres over a period of two years. Our program is 90% by cultivation and 10% by the use of sodium chlorate. Federal work has been very valuable in conducting our cultivation program.

Chairman Spence: We will now hear from Mr. Klatt of Nebraska

Mr. Klatt: (Nebraska) Our weed program in Nebraska is very new as it became effective in May, 1937, but since that time a great deal of interest in the control of weeds has developed. The Legislature has allotted us \$50,000 to be used for educational and administrative work. Bindweed is our worst pest, about 400,000 acres being infested. Other important weeds are Leafy spurge, Puncture vine and Canada thistle. Our law requires eradication, control and check of spread of noxious weeds; it prohibits sale of feed and seed infested with weed seed and requires the processing of feed and screenings infested.

Education is carried out through card posters, notices and warnings. Weed districts may be formed. Two districts now established comprise 28,000 acres.

Chairman Spence: You will now hear from Idaho, where the weed program has been handled by the Extension Service. We spent fifteen years of educational and experimental work as a background for our present program. We have found that the educational phases are the most important, and we haven't reduced any of our efforts along this line. In 1936 we undertook a Statewide program in connection with WPA, and we are now going into the third year. In our chemical treatments we use chlorates and CS₂. The program has been broadened to take in watershed areas, and we have two watershed projects now under way. In

the operation of our Commission program, the law allows the County Commissioners and the individual land owner to divide equally the cost of the work. We have made a survey of the State to show just what our infestation is, and this will probably be completed during 1938. This was mainly a farm to farm survey, and in my judgment is one of the major accomplishments in our program this year, and we are in a stronger position for instilling a program in the future. We now have nineteen Counties where Leafy spurge has been found. Others have been small and we have been able to clean them up. Cultivation has played an increasing importance in the program. This year we are extending our cultivation work to the large areas, and in 1939 we will start on additional eight to ten acre areas. Once we establish a district it is compulsory for the individual to clean up. We have operated with about 2,000 men at peak, with an average of 1,400.

Public interest has meant more to the program than anything else, and we are continuing our education program on the same basis. In our various Counties we are organizing schools where we set up samples of various grades of seeds showing both good and bad seed. Farmers are invited to bring in samples of seed which they contemplate buying. We run the samples before their eyes and show them just what the seed contains. In this way we have accomplished a great deal in the way of educating the farmer to plant clean seed.

AFTERNOON SESSION

Chairman Spence: I will now appoint committees. On Objectives and By-Laws: G. R. Hyslop of Oregon, Chairman; Messrs. Kohout, Idaho; Corkins, Wyoming; Hutchings, Utah; Griner, Washington; Fleury, California; Boyer, Utah. On Resolutions: W. S. Ball, California, Chairman; Messrs. Russell, Washington; Tucker, Colorado; Schweis, Nevada; Babcock, Oregon; Stallings, Utah. On Research and Education: Bruce J. Thornton of Colorado, Chairman; Messrs. Salman, U.S.D.A.; Stodieck, Nevada; Mitchell, U.S.D.A.; Caylor, New Mexico; Dr. Durrell, Colorado; Dr. Bartlett, Arizona.

Mr. Ball: As Chairman of the Resolutions Committee, I would appreciate it very much if you will submit your resolutions to the committee as soon as possible.

Chairman Spence: That is a good suggestion. As a matter of fact, it holds true for all of these committees. This afternoon we will have an open discussion on educational needs and research.

Dr. Salman: (Washington, D.C.) We started research work in 1935, in cooperation with the State Agricultural Experiment Stations. Five practical field experiment stations have been established. We have some physiological studies on root reserves which are designed to give a better understanding of growth and will enable us to work out practical programs. We have a study under way at Davis, California, dealing particularly with herbicides and consisting of laboratory, greenhouse and field work. At Fort Collins we have inaugurated a study in relation to research on Bindweed and White-top, and we are getting some promising and worthwhile results, especially in

the matter of frequency of cultivation. We haven't gone so far as to make any definite recommendations, but we have found that the trend of root reserves at the time to begin cultivation is important and that beginning cultivation in the spring is a great factor toward eradication. In the case of Bindweed we have found that it is best to begin cultivation when the plant is coming into bud, for at this time there is a low root reserve, which governs the number of cultivations. We find, also, that under most conditions dry chlorates are as effective as chlorates applied with a spray; however, I do not think there is any material difference in effectiveness of the two methods. It is rather difficult to tell without trying the exact quantity of chlorate necessary for any set of conditions.

Another thing which is very interesting and is still in the experimental stage, is work in competitive crops. It seemed that farmers would have to live with the weeds rather than eradicate them. We have thought of our work with competitive crops more or less in that connection, but I am not so sure that in two or three years weeds can be eradicated in this manner. I am confident that we can work out a method to grow a good crop in competition with the Bindweed. I have been interested in results of the work done at Hayes, Kansas, where experiments indicate Bindweed could be eradicated in large fields if cultivated for two years.

As I said, we are collecting certain physiological studies to gain a better understanding on how the weed grows and to effect more practical and effective means of eradication, also to learn the most effective time to begin cultivation. Another thing I want to mention which will illustrate what I am getting

at, is that we observed that Bindweed grows very little in the fall and late in the spring, and is somewhat sensitive to shade and also is delayed in emergence and growth by deep plowing. In our experiments we laid all these facts together. We plowed the ground deep just before putting in the wheat or rye and from only one year's result we found the crops got a good start in the spring before the Bindweed started growing, which means that the Bindweed doesn't have a chance. By that time the wheat and rye will have grown to the point where they throw a dense shade, which also slows the growth of Bindweed. There are possibilities in working out a program of that kind and I think we could evolve one that would be effective.

In experiments at the Davis Laboratory, we have found that soil high in nitrates requires a considerably greater amount of chlorates than does a soil with low nitrate content. Boron and arsenic are being used for soil sterilization, the heavier the soil the more boron and arsenic are needed. A great deal more of the chemical is needed on a clay soil than on a sandy one.

Mr. Stodieck: Most of your work has been on the Bindweed?

Dr. Salman: Yes.

Chairman Spence: Thank you, Dr. Salman. That was a very interesting report. We have with us O. L. Babcock, a representative of the Indian Service.

Mr. Babcock: (Oregon) I am sorry that I have nothing to add to what has been said. The Indian Service was mentioned this morning, and, I think, justly. State laws are not effective on Indian Allotments. Indian landlords are very reluctant to cooperate and are not at all concerned about noxious weeds.

The great objective that we have in the Indian Service is to get our Indian landlords to take care of the infestations there.

We have estimated that we have about 30,000 acres infested in Eastern Oregon. Various farm organizations have united in a weed program and we have been very much interested. I think Oregon is becoming weed conscious at this time. I find that our farmers do need education. Unfortunately, our agricultural schools are engaged in ways of making great production and are not weed minded. The whole idea of noxious weeds is comparatively recent, but when we consider that they take 1/8 of farm revenue, noxious weeds seem to me a national and not a local question. If we want to reduce production, all we have to do is let the Bindweed grow, but we can't afford to do it.

Chairman Spence: Thank you, Mr. Babcock. I might say that our experience with the Indian Service is a little different. On most reservations we have had excellent cooperation, not only in a financial way, but in other ways. In addition to that, we have an Indian Foreman.

Mr. Babcock: Did you get any money?

Chairman Spence: They had \$10,000 two years ago for purchasing chemicals. We have another gentlemen here who represents the Department of Reclamation, M. V. Mitchell.

Mr. Mitchell: (Washington, D.C.) I think it was about three years ago we discovered that one of the principle factors affecting our section was Perennial weeds, and it was my lot to find out what could be done. Shortly thereafter, CCC camps were established on our property. We had these boys go out on demonstrational work and also gave a few of them short cutting

demonstrations. Short cutting to a farmer is clean cultivating. In order to short cut at the proper time you should know something about root habits. These boys have also been used for some of the work in the field, applying herbicides.

We now have worked out a series of slides which, we believe, will prove very helpful in getting information before the people. The set deals with noxious weeds only, showing their source, how they spread, their root habits, how to control them, and how to eradicate them. If our County agents can educate the people through these slides, it will be one of the best ways to get results, for you cannot eradicate weeds before you identify them. Noxious weeds should be advertised by posters so people can see them and know how they look when growing.

Chairman Spence: I think Mr. Mitchell's remarks fit into our next discussion and are a good lead off. Regardless of the methods used or type of program, education is still 50% of the battle. I think we will turn the program over to a discussion of educational possibilities. I would like you to start this, Mr. Ball, as you have had a great deal of experience in this field.

Mr. Ball: I will start off by giving more or less of a summary as to what has already been mentioned relative to the educational needs. Weeds have overtaken us, and it seems as though the cart is away ahead of the horse, as far as much of the work is concerned. We must get to the bottom of this subject and get it across to that group of individuals who are going to be most effective in the future. Much of our educational work has been along the line of talks to various groups of

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There was an open discussion among the delegates from various States as to their methods of abolishing weeds. This discussion considered the benefits of plowing to eradicate noxious weeds, comparing 3½ inch with 6 inch plowing, the comparable costs, the frequency of plowing necessary in such eradication, various methods and different types of machinery.

Chairman Spence: If we are going to get through our program, we had better get started. There is considerable interest in more uniformity in weed and seed laws among the States, therefore, I think we will open the discussion by having Mr. Hyslop talk on the new Federal Seed Law. He is thoroughly familiar with the bill.

Mr. Hyslop: The Coffee Bill, as it has been known for some months, has been reprinted in final form as House Resolution No. 10186. Historically, there has been criticism of lack of coordination of the seed work in the U. S. Department of Agriculture which has extended over some period of time. It was definitely called to Secretary Wallace's attention at the Caldwell meeting in Idaho last August.

The Secretary appointed a Seed Policy Committee for the purpose of coordinating the activities of the divisions of the U. S. Department of Agriculture with relation to seed. This committee, as I understand it, formulated the original bill which was introduced by Representative Coffee of Nebraska. The bill was printed and many people had an opportunity to criticize it and make suggestions with reference to it. Finally after various revisions the Seed Committee of the Legislative Committee of the American Seed Trade Association went into conference with the sub-committee of the House Committee on Agriculture and the Seed Committee of the Department of Agriculture.

I sat in on these latter conferences and became somewhat familiar with the Seed Trade objections.

As originally proposed the bill had a very large number of desirable features that represent definite improvement over previous seed legislation and in its finished form will, in my judgment, make for very much more uniform seed legislation in the various states of the United States. I felt that the Seed Trade committee spent a great deal of time on matters that were purely methods of expression rather than those that affect fundamentally the principles involved in the bill.

The original bill provided that the Secretary might designate seeds to be considered as commercial seeds. However, the Seed Committee of the Department yielded to the request of the Seed Trade committee and named a very comprehensive list of "agricultural seeds" in the bill. However, the Secretary still has authority to modify such list of seeds when it appears advisable to do so. There are a number of commonly understood definitions. This is typical of federal legislation.

For the purpose of Title III, which applies to seeds imported into the United States, Canada thistle, all species of dodder, quack grass, bindweed, Johnson grass, Russian knapweed, perennial sow thistle, leafy spurge, and all three species of white top are considered noxious, and for the purpose of interstate movement of seeds the term noxious applies to weed seeds recognized as noxious by the law of the state or territory into which seed is transported or in which it is sold.

The real meat of the bill provides for the labeling of all agricultural and vegetable seed moving in interstate commerce. The labeling requirements include kind of seed and percentage by weight,

variety or type if known, origin if known, and in the case of certain seeds if the origin is unknown it is to be so stated. The percentage by weight of weed seeds is required, including noxious weeds and the kinds and rate of occurrence of noxious weeds must be indicated in accordance with the law of the state into which the seed goes. Percentage by weight of other crop seed is also required. The percentage of germination exclusive of hard seed, the percentage of hard seed if present, the percentage of total live seed if hard seed is present, and the calendar month and year the test was completed must be indicated on the label. The germination tests shall have been completed not more than five months, exclusive of the month in which the test was made, prior to transportation in interstate commerce. There was considerable Seed Trade controversy over requiring the origin and purity statement on certain seeds if the origin was not known, but it was finally agreed to.

There was difference of opinion on the period of time during which a germination test would hold. Some of the southern seed people had requested that this period should not exceed three months from the beginning of the germination tests. However, the matter was compromised on the period indicated previously. A very short period during which the germination test would be applicable would involve unnecessary germination tests and work a serious hardship on many seed producing districts. There is provision, however, that in cases that appear to warrant it the Secretary may designate a shorter period of applicability of the germination test.

The original draft of the bill provided that the name of the original shipper and the date the seed entered interstate commerce should be included on the tag. I felt that this would work a hardship against certified seed and would serve no good purpose and therefore the item was dropped.

Labeling of mixtures of seed is very similar to that of straight seed, except that the presence of any other crop seed in excess of five per cent must show on the label and its germination must also be determined.

There is a substantial improvement in vegetable seed treatment under this law. The label requires the percentage of germination when it is less than the standard established by the Secretary of Agriculture as well as the name and address of the shipper and the kind and variety of seed. When vegetable seed germinates equal to or in excess of the standard it is unnecessary to include any statement of germination on the label. In the case of packet seeds provision is made that the law does not affect such seed until after a period of time which will allow seed firms to dispose of stock on hand and make ample preparation for the printing of packets to be sold under the law. This was readily acceded to by the Seed Committee of the Department. There are several prohibitions which include the selling of seed falsely labeled or falsely advertised; seed that is required to be colored and that is not so colored; domestic seed that has been stained to resemble imported seed or seed from some other country; seed that is not properly colored in accordance with the regulations; screenings of any seed subject to the act unless free from noxious weed seeds and unless definitely indicated that they are not intended for seeding purposes.

The Association of American Feed Dealers is preparing to fight this portion of the law applying to screenings. It appears to me that with the large surpluses of feed grains throughout the United States that it is unnecessary to import screenings into the United States or to move either domestic or foreign screenings in interstate commerce.

There are certain exemptions in that the provisions of the act

do not apply to common carriers, they do not apply to seed being moved for processing for cleaning purposes provided it is so invoiced, and it is possible to waive certain items such as the germination test in the event of emergency which is recognized by the Secretary and so promulgated. For instance, in a case similar to the great Mississippi flood it might be necessary to rush seed into such an area and be impracticable to wait for a germination test. Another case involves the movement of seed from one section of the United States to another when the interval between harvest and planting time is too small to allow for certain slow germination tests. This may affect some of our certified seed. There is a very important departure from previous seed legislation of the United States. I quote:

"Sec. 203. All persons transporting, or delivering for transportation, in interstate commerce, agricultural or vegetable seeds shall keep such records as the Secretary of Agriculture shall prescribe, for the purpose of disclosing fully and correctly the origin and the variety or type of the seed involved in such transaction, as required by section 201 of this Act. The Secretary of Agriculture, or his duly authorized agents, shall have the right to inspect such records for the purpose of the effective administration of this Act."

This does away with what I think has been a marvelous opportunity for unscrupulous dealers, and that is the present system of seed verification, and makes a real legal status for checking on the origin of seed.

Provisions are made for investigation and disposition of seed in certain cases of violations.

There is a great deal of dealer controversy over a provision of the law indicating that the disclaimer or non-warranty clause shall not constitute a defense in any proceeding brought under the provisions of this act. However, when it was explained that this applied simply to the relations of the Department to the violator and had no bearing on the relation of the non-warranty clause between buyer and seller, the item was accepted. A great deal of controversy arose over the question of false advertising. But that has been ironed out satisfactorily to

all concerned.

In connection with foreign commerce there are certain prohibitions regarding mixture and adulteration of seed to be imported and provisions are made for conditioning certain seed unfit for entry. Seed is considered unfit for seeding purposes and therefore unfit for entry into the United States if it contains in excess of one noxious weed in each five grams of the small seeds, or one in each twenty-five grams of the seeds of intermediate size, or one in a hundred grams of the larger seeds. This is an item that this group may well consider seriously. That means ninety noxious weeds to the pound in the case of alfalfa, clovers, and most of our grasses and in much more generous on seed imported into the United States than many of our state laws. However, the states having more stringent regulation are protected.

Another very controversial item was the tolerance of $2\frac{1}{2}$ per cent by weight of weed seeds in imported seed. Originally this was set at 3 per cent, then by agreement dropped to $1\frac{1}{2}$ per cent, and then raised to $2\frac{1}{2}$ per cent, after the meetings. I do not know the reason why this recession was made. The only argument I heard against the $1\frac{1}{2}$ was fallacious in that the importer claimed it would limit the opportunity for the use of American cleaning equipment and labor in conditioning imported seed. The statement is untrue since all such seed may be cleaned in bond. The feeling of our seed trade and representative seed growers is that $1\frac{1}{2}$ per cent is the maximum tolerance that should be permitted.

Another excellent feature is the raising of the requirement for pure live seed on imported seed to 75 per cent. Some importers objected to this and so a provision has been incorporated whereby the Secretary may have discretion in adjusting the figure to less than 75 per cent in certain cases that may seem necessary. The importation of screenings, scalpings, chaff, and scourings is prohibited except

that this does not apply to such material from a number of grains that are used for feed. It is unlawful;

1. To sell seed for seeding purposes if it was imported for other purposes.
2. To sell screenings if imported for other than seeding purposes.
3. To sell seed that has been improperly stained.
4. To sell seed stained with different colors.

The Secretary is authorized to establish germination standards for vegetable seeds. He is also authorized to make rules and regulations and is required to give a public hearing on the establishment of any rule or regulation not less than 30 days prior to its going into effect. He is authorized to determine methods of analysis and to establish reasonable tolerances in connection with analyses. One very controversial point not agreed upon by the committees was with reference to enforcement of the law in the case of a violation as applying to an individual container filled with seed from a blend and labeled with the analysis of the composite sample representing the blend. The Seed Trade desired the Department to take into consideration their record and their composite sample and to use their composite sample for enforcement purposes. This must be fought out in the Congress because if the seed dealer is not responsible for the individual container of seed that he sells and the Department must go back to records and seedsmen's samples, the law becomes useless. After all, if the seed dealer makes a blend he should make a good blend and make allowance for variation in his labeling. The table of tolerances to be set up by the Secretary will be helpful in this respect. However, for enforcement purposes the inspector must depend on the sample and the analysis of the individual bag offered for sale. It

strikes me that this bill is an excellent one and that the weed minded people of the eleven western states must be alert that there be no relaxation in connection with this item and in connection with the item affecting screenings.

Chairman Spence: I think this bill is important and ties in very definitely with the objective of any Weed Control program.

A short time ago, I was going over the bill in some detail and while thinking of this provision on noxious weeds, it occurred to me there was more need now than ever before for enactment of this bill which would bring about uniformity in our State laws as far as noxious weeds are concerned.

For our own interest, I divided the United States into five districts. Using the present seed laws, I took at random six noxious weeds and then made a chart of the uniformity among States by these various divisions. This is about what we find in the eleven Western States: 5 State laws have all of these 6 weeds named as noxious in their statutes; 1 State has none; 1 has 1; 1 has 2; and 1 has 3. The eleven Western States are the most uniform of any district in the United States. In the North Central group we find a different picture. One state has all 6; 2 have only 2; 4 have 3; and 2 have 4. In the Southern States 5 out of 11 have none of the 6 named noxious weeds; 3 have 1; 3 have 2. Of the East Central Group, 5 States have 1;

and 1 State has 3. The Eastern States show a similar picture: 2 States have none; 6 have 1 and 1 State has 2.

If we are going to prevent this practice, we must get more uniformity. This new Federal Seed Law has a lot of value and plugs a lot of holes we have had in the past.

Mr. Ball: I would like to express the viewpoint of California. We are attempting to work out uniform regulation through the Agricultural Commissioners in each County who have the power to make inspections and rejections in accordance with the regulations. Some Counties have been made dumping grounds because certain weeds therein were not declared noxious. We are attempting to get the Counties to reject a given number of weeds whenever found in any commodity. I have listed all those mentioned or recognized in our Agricultural Code, amounting to some 89 weeds. The reason for such a large number is that we are trying to give specific names rather than genus specification because there are many weeds of a genus that are not particularly harmful. I charted these weeds and the Counties and checked those Counties which would reject whenever found, and we ended up with eight weeds. The thirty-five Counties reporting stated they would reject the following: Camel thorn, Leafy spurge, Klamath weed, Carolina nettle, White horse nettle, Canada thistle, Austrian field cress, Russian knapweed.

After compiling this list, I asked one of our seedsmen in Sacramento for his reaction. His first statement was that it was the best piece of work the Counties and State have done, because it gives us something to work toward. As long as they feel a County is not going to reject certain weeds, they are going to try to get them into that County. He said further

that if you have a given list in the State of California, we can tell our growers we are not going to accept that weed seed. Also, where we are growing our own seed, we know we will have to go into the field and clean it up, or we can't sell the seed. It seems the Seed Council is again back of us and I see no reason why we in the Western States cannot come to some similar uniform agreement. Seeds are going to be purchased from the same seed firms throughout these eleven Western States and there is no reason why we should not work toward some definite uniform regulations.

Possibly there are only a few weeds we could all agree to reject. We could go on record as stating we will reject these whenever found and that we are going to take steps toward uniform reaction. That, no doubt, will cause some trouble between States active in the movement of manure, hay and other commodities that carry weed seeds. But I do not think we can ask our seedsmen or the government to join in weed regulations until we take steps toward that end ourselves.

Speaker: Why didn't you include Bindweed in your list?

Mr. Ball: I did not make this list. I compiled a record of what was handed to me by the County Agricultural Commissioners. California is generally infested with Morning glory. The importance of it is seen especially by the younger generation, but there is little to be done about it on many of the large areas. So much of our land is vineyard or orchard or specialized farming. Grain is sowed year after year on the same land. The infested orchard areas require cultural practices to keep the weed down, and this does not always fit into general orchard culture. We attempt control and eradication on areas where

Bindweed has not become heavily infested and a lot of money has been spent. Our policy has been whenever the individual County or State is spending any money toward eradication in any given district that we reject any of the seed for their protection.

Speaker: Doesn't the fact that your land is irrigated have a lot to do with it?

Mr. Ball: Absolutely. Much of the land is irrigated in our highly productive areas, and due to the long growing season a much more difficult problem confronts us.

Chairman Spence: Any further discussion on this?

Speaker: Will this come up for the Resolutions Committee?

Mr. Ball: We have not really considered it as yet, as we want to get the reaction to Mr. Hyslop's report. I feel, however, that the States should march along with this bill.

Chairman Spence: It is a quarter to twelve. How far along are the committees? Would they like a little time before they make their reports? I thought probably we could get rid of the discussion on Federal aid and then take up these committee reports. Perhaps we should delay our afternoon meeting until two o'clock and give the committees this time to complete their reports. At that time we could reconvene and spend the time needed on the subject of Federal aid, finishing with our reports.

Chairman Spence: Let's make it 1:30.

Mr. Ball: We would like the reaction of the group relative to Mr. Hyslop's report.

The meeting was recessed at 11:50.

The meeting reconvened at 1:30 P.M.

Chairman Spence: A number of the folks not back yet will be

drifting in very shortly.

This afternoon we will discuss our last topic -- Federal Aid for State Weed Control -- a subject in which there is a great deal of interest, especially in the Western States. A Federal program is something that must be handled with a great deal of care and developed gradually and slowly. No one has had a better opportunity to feel out the general conditions and to get an expression, not only in the Western States, but throughout the nation, on the subject of Federal aid than Mr. Corkins of Wyoming. We are asking him to lead this discussion.

Mr. Corkins: I should be glad if this might be a progress report, but it cannot be that because, in all frankness, it can hardly be said any definite progress has been made insofar as the problem of obtaining Federal aid on the control of noxious weeds is concerned. However, considerable progress has been made that cannot actually be measured, particularly in awakening consciousness of the agricultural interests of the country to the weed problem and the consideration they are giving to the problem of Federal aid in control operations. I am going to try to confine my remarks in opening up this discussion to some of the major problems we have encountered in an attempt to obtain Federal aid in noxious weed control. In doing that, it might be well to develop a previous history of this movement.

For eleven or twelve years, if my memory serves me correctly, the Western Plant Quarantine Board has been making resolutions primarily directed to the Congress and the Secretary of Agriculture concerning noxious weed problems in the West. Little had ever come of those resolutions until two years ago. At their

meeting at Boise, Idaho, in 1936, the officers of the Western Plant Quarantine Board were directed to consult with the National Plant Board and seek the establishment of a National Weed Committee to work out a national program of noxious weed control. In this, the Western Quarantine Board was successful and a National Weed Committee was appointed, with one member from each of the four regions which constitute the National Plant Board. In the meantime, two regional meetings were held, out of which had come two very definite things. First was the movement for research funds for the U.S. Bureau of Plant Industry and the Bureau of Chemistry. It was largely through the efforts of the people in the Central States, cooperating with the Weed Committee of the Western Plant Quarantine Board, that the first Federal research work on noxious weeds was inaugurated. Also, out of the Central States Weed Committee came the first suggested national program which has been mulled over for the last two or three years and has been the basis upon which we formed our national program under the National Weed Committee. In the meantime, some of the folks out in the West, independent of the Western Plant Board, got together, culminating in a conference at Boise, Idaho, last year.

Due to the fact that the only serious interest in the weed problem by the members of the National Plant Board was confined to the Central and Western Boards, by action of the representatives of the Southern and Eastern States at the annual conference of this Board last winter, the National Weed Committee was left without a sponsor. We decided to carry on until this time, hoping that out of this meeting would develop an organization which could take over the activities of the National Weed

Committee.

The National Weed Committee was primarily a policy committee and not a legislative committee. There were members who could not enter into legislative work. So we established some thirty State committees, which, frankly, were in a measure contact committees on legislation. These committees, of course, had other functions, but the primary interest we had in them was to have someone who could directly assist in the solution of the problems of national legislation in which we were involved.

Doubtless all of you are familiar with the report coming out of the first meeting of this national weed committee. We are very conscious of the fact that if we are to have further legislation in behalf of noxious weed control, we must have the assistance of the national agricultural organizations. We have been working toward that end, with rather fruitless results. The problem has been the lack of uniformity of thought and action on the part of these national organizations. All of them recognize the weed problem, but only the National Reclamation Association has completely endorsed the program of the National Weed Committee so far as Federal aid is concerned. So far as the National Grange is concerned, a very practical Federal weed control resolution is in effect and the national officers have given us a lot of assistance. It may be added that the National Grange master is on record as supporting the national movement we are fostering.

No national weed control policy was developed by the American Federation of Farm Bureaus until their convention this last year. The Western division of the Farm Bureau has

been active in this regard for some time. It was due to the insistence of Western States that a national program of noxious weed control was recognized at the last annual meeting of the American Federation. Their policy is very, very practical. When we saw the resolution, we were hopeful it meant we were going to receive the direct support of their Washington representatives on our national program. Their resolution read: "Recognizing the alarming increase of noxious weeds as one of the greatest national problems, we recommend the AAA continue weed control; that the Federal Government extend reasonable cooperation to, and provide for cooperation and coordination in the use of approved methods for weed eradication," etc.

Early this spring, we had a report from one of the Executive Committee members of the American Federation of Farm Bureaus that, in substance, the committee had endorsed the Clark Bill, but that the appropriation suggested was too much. That report was incorrect. The present policy of the American Federation of Farm Bureaus is primarily to move for additional funds for research. While, of course, we agree that an increase in these appropriations is important, we regret that the American Federation of Farm Bureaus does not yet feel the need for Federal aid in noxious weed control.

Most of us are familiar with the Clark Bill. I want to make a few comments about it. To begin with, when the National Weed Committee held its first meeting, we discussed the bill which had been introduced in the Congress dealing with the problem of Federal aid. The bill did not entirely meet the approval of the committee. That, of course, was the Clark Bill of last year. As a consequence, we laid down the policies

which we thought should be incorporated in this type of bill and conferred with Representative Clark of Idaho. We found him most cordial in adjusting his bill to the ideas of the national committee. House Resolution 9313, the so-called Clark Bill of 1938, is in all respects in line with the recommendations of the National Committee, except as to the amount of appropriation indicated. In that regard, our committee had recommended not to exceed \$5,000,000 and the bill carries a sum of \$25,000,000. There were two reasons why our committee felt the larger sum was too much. First, there is not an adequate program now in prospect in the various States to use more than \$5,000,000. Second, the sum of \$25,000,000 would materially lessen the prospect of passage of the bill.

One of the controversial features of this bill is Section 3, which deals with the administration of the Federal program for control. It really allows each State to develop its own program on noxious weed control, backed by direct Federal aid. That, perhaps, has drawn more fire than any other feature of the bill and should receive further discussion. Section 6 of the bill should have the particular attention of the Western States, as it was because of the recommendations of the Western States that it appears in the bill. It deals with the control of noxious weeds on lands owned by the United States, making them subject to the noxious weed laws of the States. Perhaps we will get some comment from the floor concerning this particular section of the act. Doubtless some adjustment can be made to correct the objections to this section.

Section 7 of the act has to do with Extension education and research. We sometimes wonder if, perhaps, this should

have been included in the Control Bill. It might have been better to confine our efforts to the development of more Federal funds for Extension education and research work, as a separate activity. But we were particularly conscious of the need of additional extension and research funds and drew the bill to provide that the Secretary of Agriculture, in his discretion, may allocate not more than 5% of the total sum available to the Department of Agriculture for noxious weed research in cooperation with the various State Experiment Stations. The same thing obtains with reference to Extension activities.

Those, of course, are the high points in this particular bill. There is one specification which perhaps needs some comment. The bill specifically directs the control program to the Bureau of Entomology and Plant Quarantine. The reason for this is that the Bureau of Plant Industry is on record in opposition to administration of control work, as it is the desire of this Bureau to remain primarily a research institution. It is not interested in control programs. On the other hand, the Bureau of Entomology and Plant Quarantine is dealing in large programs of control and eradication of pests, including plant pests. The Bureau of Entomology and Plant Quarantine has both the organization and experience to handle it. Although it may seem a bit out of place to direct any possible program of Federal weed control into the Bureau of Entomology, we know of no better place to put it.

Perhaps the most important problem we have to deal with in connection with Federal aid is that of the adjustment of our opinions with those of the executives of the United States

Department of Agriculture. There is no longer need to duck the facts in this particular problem. We may just as well discuss them frankly and come to a decision concerning future procedure. To refresh your memories, it may be well to read the report of the Secretary of Agriculture on the Clark bill.

March 17, 1938

Honorable Marvin Jones
Chairman, Committee on Agriculture
House of Representatives

Dear Mr. Jones:

Reference is made to your letter of February 4, requesting a report for your Committee on H.R. 9313, by Mr. Clark of Idaho, "To provide for the general welfare by establishing a system of Federal benefits and by enabling the several States to make more adequate provision for the control and the eradication of noxious weeds; to conserve and protect the agricultural resources of the several States and of the United States; to empower the Secretary of Agriculture to make certain rules and regulations and prescribe conditions; to raise revenue; and for other purposes."

The problem of weed control is a serious one involving many complicating factors. Weeds regarded as serious pests in one locality are not considered serious in another, and weeds which interfere with the production of one or more kinds of crops may not interfere with others. Weeds that are hard to control under one set of conditions may be easily controlled under others. There are certain kinds of weeds so widely distributed that they are believed to be definitely the responsibility of the individual land owner. If he does not assume and maintain this responsibility, no permanently effective control can be expected. Weeds infest high-priced land and low-priced land; they interfere with the production of crops of low value as well as of high value; and they are pests under irrigated as well as non-irrigated conditions. With all the variations between these extremes the control of weeds from the national standpoint is a complex problem. The Department, therefore, has given the bill, H.R. 9313, careful consideration.

The Department has been engaged for a limited period on a weed control research program. This work has not been carried far enough to warrant final conclusions. The available evidence indicates, however, that in most areas the most feasible methods

of weed control are cultivation and cropping practices which fit in as a part of regular farm operations. The effectiveness of these methods is in general equal to that of any others now available and their costs are much less. Such methods do not, unfortunately, lend themselves for use in an extensive control program involving other than the farmers' own working operations. Their use in connection with programs such as those contemplated by H.R. 9313 would seem therefore to involve benefit payments to farmers. The objections to an attempt to control weeds through benefit payments were pointed out in a report under date of July 23, 1937, made to Senator E. D. Smith, Chairman of the Senate Committee on Agriculture and Forestry, on S. 2499, a bill very similar to H.R. 9313. In this report it was stated that Department experience has shown that the payment of benefits or bounties to individual farmers for weed control has not been an effective procedure. Without constant supervision and compulsory powers there is no way of insuring that effective control methods are being carried out. It is also extremely difficult to determine a proper basis for payment, since the degree of infestation and the most efficient means of control or eradication vary from farm to farm, and the amount of work necessary cannot be predetermined.

The only generally effective method other than that involving cultivation and cropping is by the use of chemicals, principally carbon bisulphide and sodium chlorate. Carbon bisulphide is so expensive as to practically preclude its use on any but the most high-priced land or on very small, isolated infestations, and, moreover, it is not universally effective. Though less costly, sodium chlorate is, nevertheless, too expensive to use on any but moderate-to high-priced land, and has the added objection of rendering the land sterile and incapable of growing a crop for at least a year after its application. Its greatest usefulness is for killing weeds on uncultivated roadsides, small waste areas adjoining cultivated land it is desired to protect, or small isolated infestations on cultivated lands. The Department recognizes that chemical can be used to advantage in some instances, either by farmers themselves or in programs sponsored by public agencies. The uncertainties of success are so great, however, for most sections of the country with the materials thus far developed for such purposes that the Department would hesitate to recommend any general or wide-spread program for eradication or control of weeds by chemical methods at this time.

H.R. 9313 provides that the funds authorized shall be used to pay 50 per cent of the total costs

incurred under weed control plans submitted by the State for approval by the Secretary of Agriculture. Despite the fact that the bill provides that the Department be advised of the basic plan in connection with the requirement for its approval, and despite the control given the Secretary by the bill as to operations in carrying out that plan, the actual control of the Department over effective operation would be limited. The conditions as to infestations of weeds in a State or in a group of States are so complex as to warrant closer contact by the Department and more direct control of all operations, including the disbursement of funds made available under this authorization. The bill as drawn is, also, administratively difficult, as it makes no provision for adjusting payments if the total requests for all States should exceed the appropriated amount. In other pest control programs involving cooperation with the States such as those for the control of injurious insects and plant diseases, the plan followed is elastic enough to be suitable for the great variety of problems arising, and the intimate touch with the entire program enables the Department to shift the emphasis where it is found desirable, make use of the most recent developments of research, and otherwise coordinate the program. It is believed that general method would be better suited to the variety of conditions encountered in a national weed control program.

Section 9 of the proposed bill defines the term "noxious weed" as applying to such perennial weeds as may be designated "noxious" by the State agencies in the respective States charged with the administration or supervision of the various State plans. The Department does not concur with the limitation placed in this definition on the type of weeds. There is so much variation in present State designation of "noxious" weeds that this provision seems undesirable. One of the important and fundamental principles of Federal cooperation in a pest control problem is the coordination of effort in the States concerned. The weed problem may extend beyond State lines and the provision in this bill that noxious weeds shall be designated by State agencies provides for an uncoordinated procedure in which the Federal Government would be unable to give effective cooperation from a national point of view.

The bill also provides that all lands owned by the United States located within the several States shall be subject to the noxious-weed laws and plans for control and eradication of the States and their political subdivisions in which said lands are located, and that the Secretary of Agriculture may, at his "discretion," make to Government agencies having jurisdiction over the said lands, such allocations

for noxious weed control as he may deem necessary. These Government-owned lands are important from a weed control standpoint largely because of their location adjacent to cultivated lands, or because of lying in watersheds supplying water for irrigation projects, which irrigation water may spread weed seed grown on the public lands. Without question, weeds growing on public lands are a serious problem, and, where feasible, provision should be made for their control. The wording of the bill, however, which gives the Secretary discretion in allotting money for this purpose, implies that it would not be feasible to undertake control activities on all Federally-owned land. This implication is a fact. The difficulties of determining which projects are feasible and which are completely prohibitive because of costs are so great that the matter should be given very careful consideration before any policy is laid down. Under the provisions of the bill, any refusal by the Secretary to allot funds for control activities on public lands, regardless of whether such control is feasible, would place him in the position of refusing to obey State laws.

For the above reasons the Department does not approve H.R. 9313.

Upon reference of the matter to the Bureau of the Budget, as required by Budget Circular 344, the Acting Director thereof advised the Department of Agriculture, under date of March 10, 1938, that "as the legislation proposed by H.R. 9313 would not be in accord with the program of the President, there would be no objection to the submission to Congress of your proposed unfavorable report thereon."

Sincerely,

(signed) H. A. Wallace
Secretary.

Perhaps a little further light might be thrown on the attitude of the Department of Agriculture by reading a letter from Paul B. Appleby, in answer to a letter written to him, giving the viewpoint of the Western States on the report made by the Secretary of Agriculture. In our letter to Mr. Appleby, we reluctantly admitted that we thought the Secretary of Agriculture had not given sufficient attention to this vast problem and perhaps many of the petitions we were making to

the Department of Agriculture had not come to his personal attention and we were pleading for more direct contact with the Secretary in the consideration of this whole matter.

It seems to me that so far as the cooperation of the United States Department of Agriculture is concerned, we must decide if we are going to continue to make a demand for Federal legislation, which does not have the approval of the Secretary of Agriculture and as a consequence does not gain the further attention of the Congress under the present administration. The alternative is to make further attempts to compromise the issue standing between us and the Secretary of Agriculture, in an effort to develop a legislative program which has some fair chance of passage in the Congress. This is the most important problem of Federal aid to which we must give consideration at the present time.

Finally, it should be said that in our work on the National Weed Committee, we find that practically all of the serious interest in noxious weed control is generally west of the Mississippi River. Far Western States, with very few exceptions, are not interested in noxious weed control. The South, with the possible exception of Texas, is not interested. As a consequence, we must recognize the fact that if we are going to ask for assistance from the Federal Government, we must join solidly the support of the Western and Midwestern States. That is a very practical issue. There can be very little difference of opinion among these States if we are going to get anywhere, because it will take the support of practically all of them to do anything in the Congress.

Chairman Spence: Any further discussion? I think Mr. Corkins

has brought out one of the main objectives for which we should work. I think there is still a great lack of uniformity or difference of opinion among the various groups -- even in the Western States, as to what constitutes a sound program for Federal aid. I think some of the States feel they are in a position to use profitably and efficiently Federal aid in weed control, while others do not feel they are ready to enter into such a program. It seems to me our best plan is to take a middle course and attempt to work with a program of Federal aid, both from the standpoint of research, education and of control, which we can all conscientiously get behind.

This is real pioneering as far as weed control is concerned. If we go too fast, likely we will suffer later. I would like to hear this subject discussed. I think we have had a very excellent report and summary up to the present time, and if there is any further discussion, let us have it now. If not, perhaps we had better go into our committee reports. There will be some points along this line which will need further discussion.

Mr. Babcock: I believe the report as it was given created the

best sentiment and thought of which the Western States are capable. To me, it is very important that the Federal Government participate. It seems to me in our State we have to overlook the Government's obligation to come in and clean up this situation. We have constantly the menace of stock carrying weed seed from the infested areas of the forest and back to the uninfested areas.

Chairman Spence: I don't know what has been done by the committee on this subject, but I do believe it should be fully discussed and a resolution embodying the thought and expression of this group included in the minutes. I don't think any of us are so far apart in our ideas on the subject that we cannot get together. I think we are passing up an important objective if we don't do that. Perhaps we had better call on members of the committee and get their expression. We will discuss each item and be able to include from the floor the expressions of the group. If there is no objection, I think we will call for the committee reports at this time. But first, Mr. Ball has a letter which should be read.

Mr. Ball: I have a letter from Alex Johnson, Secretary of the California Farm Bureau Federation, who is a member of our State Weed Committee.

Western Weed Control Conference
Denver, Colorado

Gentlemen:

I regret my inability to attend this conference because I and the organization I represent are keenly interested in trying to solve some of the serious weed problems of the State, and wish to suggest that if the deliberations of this conference should result in recommendations for changes in the Agricultural Conservation Program or in the request for assistance

of CCC Camps, or reach any other decisions needing national support, you appoint delegates to attend the Western Regional Conference of the American Farm Bureau Federation which will be held in Yellowstone Park, June 23, 24 and 25, and present these problems to the regional group, and suggest that they ask for the active support of our national organization.

Yours very truly,

CALIFORNIA FARM BUREAU FEDERATION
By Alex Johnson
Secretary

Speaker: I have thought for some time that at least the resolutions of this group might be presented to that conference.

Chairman Spence: I believe there are one or two more who plan to attend.

Speaker: If we cannot do any better, why not ask Mr. Ball to contact Mr. Johnson?

Mr. Chairman: Mr. Ball will not have time.

Mr. Ball: I think Mr. Russell could represent this group very nicely. I don't think he has missed a minute from our meetings, and I move that Mr. Russell be delegated to represent this group.

The motion was seconded by Mr. Corkins and passed unanimously.

Mr. Russell: I would be very glad to do that.

Chairman Spence: Let us proceed. First in order is the report from the Objective and By-laws Committee.

Mr. Hyslop: The name of this organization shall be the Western Weed Control Conference.

Object: To foster regional organizations and a national organization of weed control agencies to act as regional and national clearing houses in connection with weed problems.

Purpose: 1. To cooperate with other regions and agencies in

the solution of weed problems.

2. To encourage national and State research in weed control.

3. To foster educational work on weeds through all appropriate agencies.

4. To formulate plans for organized weed control programs.

5. To function as a clearing house on weed matters.

6. To assist in the development of uniform weed, seed and quarantine legislation in the States.

7. To foster adequate national weed, seed and quarantine legislation.

Eligibility: Any person, organization, cooperative association, governmental agency or corporation operating in any of the Eleven Western States shall be eligible to membership.

Classes of membership and annual dues: Classes of membership and dues shall be as follows:

Official State memberships	\$15.00
Statewide organization "	5.00
Local " "	2.50
Individual memberships	1.00
Sustaining "	50.00

Participation: All members may participate in discussions at annual meetings.

Voting: Voting power shall rest with the board of directors, which shall consist of the official representatives from each State paying the official State membership dues.

Officers: Officers shall consist of a chairman, vice-chairman and secretary-treasurer, who shall serve until their successors are elected at the next annual meeting.

Executive Committee: The chairman, vice-chairman and secretary-treasurer shall constitute the executive committee of the organization.

Meetings: An annual meeting shall be held at such time and place as shall be fixed by the board of directors.

Chairman Spence: Objections to the proposal?

Speaker: I move the adoption of the report.

Chairman Spence: Adoption has been moved and seconded. Discussion?

Mr. Ball: I think one point worthy of discussion is that we have at this present time two or more members of the same State or same institution capable of representing their State. What is the desire of this committee in designating which shall be the official delegate. Or is that up to the local organization to decide?

Mr. Hyslop: We did not think there would be any difficulty as we assumed it would be up to the local group. Here is one point I might bring out: the feeling of the committee is that this organization is going to need some money. We thought perhaps the chemical and implement companies would like to participate in a sustaining membership.

Mr. Chairman: I think the question Mr. Ball brought up is a good one. We have this difference; in some States the delegate will be from the State Department of Agriculture, or the agency handling weed problems in that particular State; in another it might be the College. That will have to be ironed out so we will have the official representative of the organization handling the weed control work of the State. I don't know of any State where it would be both Extension and Department of Agriculture. Even though the Department of Agriculture might be handling the problem in the State, we certainly hope the College and Extension Service will come in on a membership basis,

for as far as research, education, etc., is concerned, we need those men and want them to feel they are in the organization as much as any official delegate.

Mr. Hyslop: One more point; we have set this up as the Western States organization on the assumption that the Central States are going to form their own organization.

Chairman Spence: May I ask Mr. Yates if there isn't a Central group now?

Mr. Yates: An organization existed there some thirteen years ago.

Chairman Spence: In setting up these objectives and by-laws it is important to make them as complete and to cover the things we, as representatives, would like to see in them. I do not think we can set up by-laws or objectives that will stand for ten years, but this is a start. I would like to have as much discussion as possible now before we adopt the report. Is there any further discussion?

Mr. Hyslop: Question.

The motion passed unanimously.

Chairman Spence: We will go to the next committee report, the Committee on Resolutions. Mr. Ball. Perhaps it would be the will of the conference to take each one at a time.

Resolution 1

WHEREAS, the value of all property, both public and private, depends upon, and values with, the control of noxious weeds, and

WHEREAS, the said weeds constitute a major farm problem affecting the economic welfare of the entire population of the country, and

WHEREAS, weed control is equally as important as soil erosion in the Western States, therefore be it

RESOLVED, that the Western States Weed Control Committee in conference assembled at Denver, Colorado, June 16 and 17, 1938, recommend that those in charge of Agricultural research education and regulation recognize and support weed control activities in their respective fields to a degree commensurate with the importance of the problem.

Resolution unanimously adopted.

Resolution 2

WHEREAS, a noxious weed infestation in one field is a menace to all fields within its immediate neighborhood, and

WHEREAS, a careful survey of an entire area is the only method by which infestations may be accurately located, and other data secured necessary for its control and eradication, and

WHEREAS, known chemical control of large areas is so expensive as to deter treatment, either by the owner or tenant, therefore be it

RESOLVED, that the Western States Weed Control Committee in conference assembled at Denver, June 16 and 17, 1938, recommend a study of financial aid in order to avoid abandonment of land which would then become a public liability, and to encourage owners of such land to undertake tillage methods to control the weeds in their field and prevent the spread to contiguous fields.

Resolution unanimously adopted.

Resolution 3

WHEREAS, there are several Indian Reservations in the

territory served by the Western States Noxious Weed Committee,
and

WHEREAS, there is no way in which State laws seeking to eradicate and control noxious weeds through taxation can affect Indian Land, without an Act of Congress, and

WHEREAS, noxious weed control must, of necessity, be applied to all lands within the weed infested district, uniformly, therefore, be it

RESOLVED, that the Noxious Weed Committee in conference assembled at Denver, Colorado, June 16 and 17, 1938, recommend that eradication work be financed by the Federal Government on all Indian lands, the title to which rests in itself, to its proportionate share, either by the employment of CCC labor or a direct contribution to the agencies directing the control activities in those districts in which the Indian land lies.

Resolution unanimously adopted.

Mr. Corkins: Why are other Federal lands, such as forest reserves, excluded from the resolution?

Mr. Ball: This general resolution was drawn from a statement made from the floor yesterday. Someone said very little or nothing was being done on Indian reservations and one of our committee has to do with Indian reservations. Do you have any objection, Mr. Babcock, to adding other Federal lands, or do you want special stress laid on Indian lands?

Mr. Babcock: Personally, I would prefer the resolution to go as written.

Chairman Spence: I wonder if we can't incorporate "other Federal agencies" into other resolutions having to do with Federal lands.

Mr. Ball: This other resolution is asking primarily for CCC labor.

Mr. Schweis: I believe it would weaken the intent to change it in any way.

Mr. Bartlett: I think you are overlooking something quite important if you do not include Federal lands, for I presume some of the States are in the same position for almost all the lands in the States are under Federal control.

Mr. Babcock: I spoke only from a personal angle. I won't object at all. I don't think the resolution committee will object.

Mr. Ball: I think not. The entire question is on the intent and desire of the resolution to bring results. It was mentioned here that it might weaken this particular resolution to add other Federal lands, inasmuch as this reservation seems to be a specific problem.

Chairman Spence: I think it would be better to incorporate as few resolutions as possible, but this is an important item and I suggest that you men interested prepare another resolution to cover agencies similar to it.

You heard the resolution.

The question was stated; resolution unanimously adopted.

Mr. Corkins: I move we use exactly the same resolution as the one just adopted but change the wording to Federal reserves, Federal forests, Bureau of Agriculture lands and other Federally owned lands.

Speaker: Should that concern national parks?

Speaker: If owned or controlled by the Federal Government.

Chairman Spence: You have heard the motion stated and seconded, Question stated and carried.

Resolution 4

WHEREAS, there are vast areas of Federal owned land in the

territory represented by the Western Weed Control Conference, and

WHEREAS, there is no way in which State laws seeking to eradicate and control noxious weeds through taxation can affect Federal reserves, National forests, National Parks or other Government owned lands, without an act of Congress, and

WHEREAS, infestations of noxious weeds occur on said Federal lands and persist as a menace to surrounding lands, and

WHEREAS, noxious weed control must be applied to all lands within a weed infested district, uniformly, therefore be it

RESOLVED, that the Western Weed Control Conference in convention assembled at Denver, Colorado, June 16 and 17, 1938, recommend that eradication work be financed by the Federal government on all Federal reserves, National forests, National parks and other Government owned land, the title to which rests in itself, to its proportionate share, either by the employment of CCC labor or a direct contribution to the agencies directing the control activities in those districts in which the Government owned lands lie.

Resolution unanimously adopted.

Resolution 5

WHEREAS, a pronounced lack of uniformity exists in the seed laws of the Western States, and

WHEREAS, such lack of uniformity allows unscrupulous dealers to dispose of foul seed in some States and thus spread noxious weed infestations, and

WHEREAS, such foul seed distribution tends to nullify the efforts and control of said noxious weed and also decrease farm income proportionately, therefore be it

RESOLVED, that the Western Weed Control Conference assembled

at Denver, Colorado, June 16 and 17, 1938, bring to the attention of the several State legislatures the urgent need of a uniform weed and seed law which will protect the said States from avoidable infestations.

Resolution unanimously adopted.

Mr. Corking: I would like to move an amendment to the effect that the Chairman of the Western States Weed Conference appoint a permanent committee to study uniform weed and seed laws and to draft uniform measures for guidance of the Western States.

The motion was seconded.

The question was stated on the amendment, and the amendment passed unanimously.

The question was stated on the resolution, and the resolution passed unanimously.

Resolution 6

WHEREAS, the rapid and general spread of noxious weeds and the damage and consequent losses caused by them has become a serious problem in the agriculture of the Western United States, and

WHEREAS, the spread of these weeds includes National forests, public domain, Indian lands, as well as private land and Western irrigation projects, and since each contributes the spread of seed and root to adjacent lands, and

WHEREAS, recognizing that the weed control problem is so large as no longer to be a private problem but a public problem, and

WHEREAS, the Federal government is making available CCC camps to various Federal agencies to work on public programs concerned with these agencies on public lands and recognizing

that research departments of the Federal Bureau of Plant Industry and various experimental stations have demonstrated control and eradication methods that can be used by CCC camps, therefore be it

RESOLVED, that weed control be accepted as a public problem.

BE IT FURTHER RESOLVED, that CCC rules and regulations be so changed as to make it possible for CCC labor to war against the further spread and to eradicate as far as possible noxious weeds whenever found in the Western United States, on or adjacent to Federally owned or controlled land.

Resolution unanimously adopted.

Speaker: First, you ask that weed control be accepted as a public problem and then that the CCC rules and regulations be so changed as to make it possible for CCC labor to wage war against noxious weeds whenever found in the United States adjacent to --

Chairman Spence: Should not that last sentence be "on and adjacent to?"

Mr. Stallings: I don't know how many of you realize just what that means. There are a number of movements throughout our State and the State of Michigan. They have a limited amount of work of this kind. They may have a reclamation camp or a reclamation district, or they may have some other kind of camp and they can only work on the camp designated. A number of them have one CCC camp. We have been trying to have those rules changed so that if a camp is located within a certain community, they can take care of a certain amount of work in erosion control or some work in weed control. At the present time, there is no set-up for noxious weeds except the Division of Grazing, which is working on noxious weed control on Federal land, but will not

go on to reclamation projects.

Mr. Ball: I think that should be considered. We have a similar set-up in California and we have really needed a small group of these boys a number of times, but their regulations are so strict they could not see their way to allow even fifteen boys from a nearby camp to work for us for prevention of seeding.

Mr. Thornton: I am wondering what interpretation would be put on the word "adjacent."

Mr. Ball: That is controversial. It might be the land bordering the public lands or it might be land in the adjacent community.

Mr. Stallings: About a year ago, "adjacent" in some Counties might have been three or four miles; in others, where ranch units are scattered, it might have been 60, 70 or 80 miles.

Mr. Schweis: I think this resolution very valuable, and one that we can take up with our representatives and have something really concrete.

Chairman Spence: Any further discussion?

The question was stated, and the resolution passed unanimously.

Resolution 7

WHEREAS, the Federal Plant Quarantine Act and the proposed Federal Seed Act have as their purpose the protection of American agriculture against dangerous plant pests and diseases, including weeds, and

WHEREAS, we believe the legislation provides ample means for protection, therefore be it

RESOLVED, that we, the Western Weed Control Conference, assembled at Denver, Colorado, June 16 and 17, 1938, do urge the closest cooperation between the Bureau of Plant Industry

and the Bureau of Entomology and Plant Quarantine in the adoption of rules, regulations and quarantine to the end that adequate inspection, treatment, fumigation and other necessary means be adopted to prevent entrance of weeds, pests and diseases into the United States on seeds or other plant material.

BE IT FURTHER RESOLVED, that we urge strict enforcement of all such rules, regulations and quarantines.

Resolution 8

WHEREAS, the proposed Federal Seed Act, H.R. 10816, embodies major desirable features in correcting abuses in seed transportation and merchandising and in the protection of American agriculture against poor seed and noxious and other weeds, therefore be it

RESOLVED, that we, the Western Weed Control Conference, representing the eleven Western States, in first annual conference assembled at Denver, Colorado, June 16 and 17, 1938, do hereby urge the passage of this bill in substantially its present form, and

BE IT FURTHER RESOLVED, that we urge that the Secretary of Agriculture be given discretionary authority to add other weeds to the list designated as noxious for the purposes of title III of the bill.

BE IT FURTHER RESOLVED, that we urge that the Secretary of Agriculture be given discretionary authority to add other weeds to the list designated as noxious for the purposes of title III of the bill.

BE IT FURTHER RESOLVED, that we urge that the tolerances for noxious weeds under title III of the bill be reduced.

BE IT FURTHER RESOLVED, that we urge that the permissible

percentage of total weed seed set up in paragraph 3b, section 303, be eliminated or substantially reduced from $2\frac{1}{2}\%$ to $1\frac{1}{2}\%$ since the proposed tolerance for general weeds and the noxious weeds are both in good seed from domestic sources, and, therefore, constitute an unnecessary weed hazard.

Mr. Schweis: I would like to ask why any tolerance is permitted in foreign imported seed.

Mr. Hyslop: I don't know. It has been done for a long time and many of our State seed laws do provide a tolerance. As a matter of fact, quite a number of the seed laws don't include the prohibition of weeds as found in some seed laws. We would probably be in a somewhat inconsistent position if we asked that no tolerance be permitted, but I do think the tolerance is too high.

Chairman Spence: The tolerance is largely governed by State laws.

Mr. Hyslop: To take a specific illustration, the Federal bill would permit 90% weeds per pound to enter the United States. As far as the State of Oregon is concerned, it would be a violation.

Mr. Schweis: That would be fine if we had perfect control once it reaches the channels of the different States, but in a great many instances we find the farmer is more inclined to judge by price than by quality. We plant hundreds of pounds of Blue Grass seed. If there had not been very close cooperation with the State of California, farmers would have planted Canada thistle on land which was not infested. California analyzed that seed and found weed seed.

Mr. Bartlett: Under the circumstances, is it likely an institution

of this kind would place itself on record as approving any tolerance on the movement of weed seed through seed imported into the United States?

Mr. Hyslop: As far as I am concerned, it is all right to prohibit it, but there is a question as to whether or not a law can be passed.

Mr. Ball: I agree with everything that has been said relative to pure seed, but I don't know anyone who has fought harder than we have for pure seed. We are confronted with a strong organization of seedsmen. We are going to have to accept, to a certain degree, all that we can get, and I think we are going to have to take careful and cautious steps toward the end which we desire. I would like very much to have tolerance eliminated in our State and Federal set-ups, but if we can get such a bill in our statutes, I think we will have taken one of the best steps toward weed control. It is a big problem and one we cannot hope to solve in our first meeting.

Mr. Stallings: It seems to me we really want to stand for it. If we don't get it, that's another thing. If we cannot get a tolerance, let us at least stand for it.

Mr. Hyslop: Why not add the words "substantially reduced."

Mr. Schweis: I will add the word "eliminated."

Chairman Spence: That would be "eliminated or substantially reduced."

Question was stated; resolution adopted.

Resolution 9

WHEREAS, we feel that when lots of seed are blended, the blends should be carefully and thoroughly made, therefore be it

RESOLVED, that no special consideration or tolerances be

permitted for variation in different packages of either domestic or foreign blends of seed.

Resolution unanimously adopted.

Mr. Corkins: I would like to move that this conference approve the broad principles of the noxious weed control act, H.R. 9313 of the Third Session of the 75th Congress, and that the Chairman of this conference appoint a committee to confer with the officials of the U.S. Department of Agriculture and agricultural associations with the end in view of correcting the controversial provisions of the Act and to push for the passage of such an Act as may be approved by the majority of the Board of Directors of this conference.

The motion was seconded.

Chairman Spence: Any other discussion?

Mr. Tucker: I am in sympathy with at least a portion of that resolution, and I am not going to object very seriously if the conference does pass it. However, there are certain implications that I don't feel I would care to vote for, in view of the fact that Colorado, through the various agencies of weed control committees, has gone on record, and I am also of the same opinion, as I indicated yesterday, that we would not be furthering weed control if we had Federal subsidy.

I am not looking at it from the standpoint of the various controversies that might arise. I am looking at it from the standpoint of what will be the weed problem in fifteen or twenty-five years on Colorado farms. One of the biggest difficulties we have in educational work is that some people will not do anything until everyone else starts. A few will take advantage of Federal aid and the rest will wait, and, consequently, the

weeds will be growing, and for that reason I heartily approve of Federal and State support for education and research and the control of noxious, poisonous or infestations weeds on Federal or State property.

Question stated; motion carried.

Mr. Stallings: I was wondering if it would not be a good idea to have some resolutions on the AAA program, including benefit to farmers, for using a weed control program as a conservation program. I understand there was a very decided effort to get that work out and I think action should be taken.

Chairman Spence: That is one thing anyone who has had the opportunity to work on the dockets knows the annual (ACP) fight in Washington. I can see the possibility of some action from this group which might strengthen our chances.

Mr. Hyslop: I move we favor the continuation of the Federal Control Practices under the ACP program.

The motion was seconded.

Mr. Ball: I would like to have a little discussion as to the success of this program in other States. I think the possibilities are very good, but the effectiveness in California is not the most satisfactory.

Mr. Hyslop: I might say that in Oregon they have worked out very nicely.

Chairman Spence: I think there were originally a lot of benefit payments for weed control practices which could not come under weed control. However, I think it must be approved by the supervisor of the district.

Mr. Stallings: I think the movement is all right, but the trouble with the program is it is based on an honor program. However, we

hope we may be able to work out some system whereby it will be of help.

The question was stated; motion passed unanimously.

The report of the Committee on Research and Education was read.

REPORT AND RECOMMENDATIONS
of the
RESEARCH AND EDUCATION COMMITTEES
June 17, 1938

Chairman Spence: Your committee has carefully considered the Research and Educational programs relating to weed control and eradication and begs to report as follows:

EDUCATION:

The most urgent and immediate need, in the opinion of the committee, is a thorough and comprehensive Federal-State educational program. Enough is known regarding sources of infestation and methods of control to justify the belief that much may be done to prevent further spread of noxious weeds and to encourage the destruction of incipient infestations before they become widespread.

It is, therefore, urged that every State having a weed control problem, be encouraged to appoint a part of full time weed specialist:

1. To carry to land owners, farmers, business men and others the need for weed control.
2. To survey the weed situation in his respective State with respect to the kind and extent of infestation of each noxious weed.
3. To determine the principal sources of infestation.
4. To encourage the location and destruction of incipient infestation before such infestations become extensive.

5. To consult with State and Federal officials with respect to needed weed and pure seed legislation and urge the passing of such legislation.

6. To coordinate the extension and research activities of the various agencies.

7. To carry to the land owners, farmers and others such information as may be secured from the research agencies as rapidly as it becomes available.

It is also urged that the importance of planting weed-free crop seeds be forcibly brought to the attention of land owners, farmers and others and that the State seed laboratories be given full support as service institutions for the examination of seed samples at little or no cost to the individuals submitting the samples.

It is also recommended that the Secretary of Agriculture be urged to appoint a Federal weed specialist in the Extension service whose duties it shall be:

1. To coordinate the work of the weed extension specialists in the various States.

2. To prepare and make available education film strips and other material depicting weed problems and approved methods of weed control, and

3. To assist in such other ways as may appear advisable.

RESEARCH:

Your committee is of the opinion that although the Federal-State research program, together with the individual State programs on the control of European of field bindweed (*Convolvulus arvensis*) has made notable progress in devising more effective and less expensive ways and means of controlling

and eradicating this pest, there are phases of this program that might well be strengthened and enlarged.

There is urgent need that the research program be expanded to include White-top, Canadian thistle, Russian knapweed and other noxious perennial weeds.

The present program is largely limited to non-irrigated lands and since the weed problem on irrigated lands is even more serious than on non-irrigated lands, information as to methods of control or eradication under irrigation conditions are urgently needed. Special attention should be directed to methods of control on reservoir sites, ditch banks and similar situations, as well as on the irrigated lands under irrigation.

Your committee recognizes that with more than a million acres of noxious weed-infested land in the United States, much of which is in the Western States, farmers must learn to live with them to a large degree for many years to come. A comprehensive research program should, therefore, include studies to determine the cultural and cropping methods that will best keep such weeds under control and permit growing profitable crops, even though eradication is not now economically possible.

More specifically the research program should be enlarged to include:

1. A wider range of the various environmental conditions common to Western States.
2. The development of cultural and cropping methods involving the use and rotation of row and smother crops.
3. The development of cheaper sources of sodium chlorate, carbon disulphide and other effective chemicals or sources closer to the region of consumption.

4. Exhaustive experimentation with a view to developing new and more satisfactory herbicides and improving the methods of using the present herbicides.

5. Fundamental physiological and anatomical studies relating to root reserves, herbicidal actions, effect of soil type, fertility, etc.

Lastly, your committee wishes to emphasize the need and importance of coordinating the research efforts of the various States through the methods now utilized in the present Federal-State weed control programs and through periodical meetings of those persons carrying on and that are interested in the weed control work.

Respectfully submitted,

RESEARCH and EDUCATION COMMITTEE

Stodeick	Nevada
Mitchell	U.S.D.A.
Caylor	New Mexico
Bartlett	Arizona
Durrell	Colorado
(Chairman) Thornton	Colorado

Motion was made for adoption of resolution; motion was seconded; resolution passed unanimously.

Expressions of appreciation were made in behalf of various members of the assembly, and plans for the next year's meeting were discussed.

The Conference was adjourned until the 1939 meeting, to be held in June, 1939, in San Francisco, California.