

Mr. Yothers worked out the life history of the Rust Mite. He demonstrated its deleterious effects on the quality of citrus fruits and further showed that these pests reduced the quantity of fruit produced. While sulphur had been used for the control of Rust Mites back during the decades of 1870 to 1880 and 1890, apparently the use of sulphur for this purpose had been about forgotten. Mr. Yothers reintroduced it and demonstrated its effectiveness in the several forms now used.

In 1915 Mr. Yothers published the first spray program for the control of citrus insects and mites in Florida. He is the author of numerous articles on entomological subjects in both popular and scientific journals and is both author and co-author of several U. S. Department of Agriculture Bulletins.

He early associated himself with the Florida State Horticultural Society in becoming a life member. He collected one of the very few complete files of the Society's Annual

Proceedings. This he recently donated to the Albertson Public Library in Orlando. Upon numerous occasions down through the years he was called upon to address the Society during its Annual Meetings upon subjects of importance to the membership. He has always responded with information and suggestions that were helpful to citrus growers of the state. He has also responded generously to calls for help from hundreds of individuals, not only during the time of his connection with the Department but subsequent thereto.

Mr. Yothers developed considerable acreage of groves. He further established a successful citrus advisory service in 1937. These interests have resulted in his maintaining a very lively appreciation of new developments in the Industry.

In 1917 Mr. Yothers was married to Ada Bumby of Orlando, by whom he had two daughters.

PANEL: TOLERANCES OF PESTICIDAL RESIDUES

WILLARD M. FIFIELD, Moderator

*Provost for Agriculture
University of Florida
Gainesville*

MODERATOR: Now that the Miller Bill is in effect, everyone is very much interested in it. Some of you may become more interested and all of the Program Committee of the Horticultural Society thought that it was of such general interest, it would merit presentation at the General Session. In picking this panel, we have tried to find representatives of the various fields of interest which are concerned with this legislation and enforcement. I have been advised that the time is limited and the speakers have been selected for eminence in their fields.

W. B. RANKIN

*Assistant to the Commissioner
Food and Drug Administration
Department of Health, Education, and Welfare
Washington, D. C.*

It is a pleasure to appear at this conference for a discussion of tolerances for pesticide

residues. We deem it a real privilege to participate in your 68th Annual Meeting.

The Pesticide Chemicals Amendment to the Federal Food, Drug, and Cosmetic Act — commonly known as the Miller Bill — became law in 1954. At that time, there were no formal Federal tolerances for spray residues and the only mechanism for setting them was the old public hearing procedure.

Much progress has been made in the 15 months since then:

A workable procedure has been developed for setting tolerances under the Miller Bill;

Numerous tolerances and exemptions have been established. Some are based on the old 1950 spray residue hearings, some result from the new procedure;

Extensions of the date when the Miller Bill becomes fully effective have been granted for a number of chemicals. The original extensions with one exception were to October 31 of this year;

Over two dozen petitions for further tolerances are in process at this time. Additional extensions have been granted for the chemicals and uses covered by these petitions until January 22, 1956. We expect before that date that the status of pesticides

for use on seasonal plant crops will be known. The status of other materials such as those used on livestock and for post-harvest purposes will be known before July 22, 1956, when the law must become fully effective.

This outstanding progress results from the combined efforts of many people. The pesticide manufacturers and their association — the National Agricultural Chemicals Association — have been most helpful. Agriculturalists, State Experiment Stations, Land-grant Colleges, and other State agencies from a number of the more important producing States, including your own, have worked hard to make the new law a success. Several units of the U. S. Department of Agriculture have contributed their time and abilities without reservation, and we in the Food and Drug Administration also have made a sincere effort to contribute to the progress of the last few months.

The accomplishments are gratifying but they are merely an introduction to the job ahead. Some of the more important tasks of the future are:

1. To simplify insofar as possible the job of determining what remains when a chemical is used on food crops;
2. To determine what residues of related compounds remain on a plant from the use of several different pesticides during the growing season;
3. To determine the effect of residues remaining on forage crops upon the meat and milk supply of the nation;
4. Education.

Considerable progress has been made in simplifying the amount of research needed to determine what remains from application of a pesticide. Last winter scientists of the Administration studied the possibility of establishing tolerances for groups of related crops on the basis of fewer analytical determinations than would be required if each commodity in the group were considered alone. They drafted a proposed grouping of crops. It was transmitted to various interested parties for study and comment.

Comments have been made on it by the Department of Agriculture, industry, and the Pesticide Subcommittee of the Food Protec-

tion Committee, National Research Council.

Much of the data obtained in experimental work in the past show residues to be expected from the application of a single pesticide to a crop under carefully controlled conditions. Comparable data are needed to show the total residues which will result from a spray schedule that requires use of two or more pharmacologically related compounds such as DDT and Methoxychlor.

The necessity of establishing formal tolerance levels for sprays and dusts on forage crops raises the question "How much chemical can a cow consume before she begins to excrete it in the milk?" Often it is not possible to determine when forage is shipped what it will be used for. Therefore, the tolerance level established for a compound on forage must be that level which will contribute zero residues to milk if the forage is fed to dairy animals. Considerable research is needed to determine what this level is for each of a number of chemicals.

We need also to establish tolerances for permitted residues in meat. This raises a number of interesting questions such as:

1. Does a fat soluble compound, a chlorinated hydrocarbon for example, distribute itself uniformly in all of the fat of the animal?
2. What effect does the leanness of an animal have upon the uptake of fat soluble compounds, that is, can we expect the same concentration of a residue such as DDT in the fat of the lean carcass as in the plump carcass?

Research is being undertaken now to answer these and other questions.

This brings us to the matter of education and here I believe is a major task for all of us. Growers must understand that it is not safe for them to experiment with new pesticides on crops. They should use the materials according to label directions — on the *crop* specified, in the *amounts* specified, and at the *times* specified.

But the necessity for ordinary prudence in use of pesticides should not alarm the consuming public nor the growers. There are three cardinal principles which we should remember and they are: Where a tolerance is issued by the Federal Government, it means

(1) that residues up to the tolerance level are safe; this has been established by adequate experimental studies on animals;

(2) that the pesticide can be employed usefully in agriculture without leaving excessive residues; this has been established by the certificate of usefulness furnished the Food and Drug Administration by the Department of Agriculture, and

(3) that when the pesticide is used according to proper directions, it will leave residues that are within the permitted level; we will not issue a tolerance unless there is evidence that it can be met.

We will welcome any help you can give in the educational program before us. Let's urge the growers to follow proper precautions in applying sprays and dusts and let's tell the consumers that they have a real safeguard to the public health in these formal tolerances that are being established now.

GEORGE M. TALBOTT

Florida Fruit and Vegetable Association
Orlando

The establishment of safe pesticide residues on vegetables has been actively supported by Florida vegetable growers since 1950. No grower would knowingly desire to be a party to the application of pesticides in a manner resulting in commodities unsafe for human consumption.

In such fields as marketing, fertilizers and farm equipment frequently everyone appears to be an expert regardless of their training but in the use of insecticides and fungicides the layman normally leaves this field strictly to the pathologists and entomologists. This means the farmer will be depending upon personnel from the Experiment Stations and Extension Service as well as Company representatives for advice and assistance in complying with the recently established tolerances. It will place a tremendous responsibility upon these various agencies to furnish the farmer with reliable and correct information on this matter.

One of the key sources of information for the farmer will be the labels placed on pesticide containers. Based on the premise of these instructions being correct and practiced,

the major concern of the farmer will be the determination of substitute chemicals capable of late applications. In certain cases, this may result in some alteration in the spray program previously used and followed by the producer.

Growers should in the future concern themselves more with the rates, frequency and time of applications of pesticides. Need should govern the use of insecticides rather than routine. By closer observation and field supervision of crops many needless applications can be avoided.

Based upon the research conducted with pesticide residues on Florida vegetable crops, it is felt with adequate and correct information Florida farmers will be able to continue their present pesticide programs with only minor changes.

PESTICIDE RESIDUE RESEARCH AT THE CITRUS EXPERIMENT STATION

J. J. MCBRIDE, JR.

Florida Citrus Experiment Station
Lake Alfred

Studies of pesticide residues on citrus were begun several years ago at the Citrus Experiment Station. At that time the primary purpose of these studies was to obtain quantitative residue data to assist the entomologist in determining the optimum conditions for the application of his pesticides. Information on the quantity of residue on fruit or leaves, on the uniformity of its distribution and on its persistence is of great value. With information of this kind, the entomologist can better interpret his data on the efficiency of a pesticide and can more intelligently plan the course of his future research.

A specific example of the early application of residue studies in solving a problem in insect control on citrus was in the use of oil emulsions. All too frequently it was reported that the use of an oil spray gave good scale control in one grove and no control in another even though the same oil was applied at the same rate and in the same way in both cases. When the method of residue determinations was applied to this problem, it was found that oil deposits were dependent not only on concentration and method of applica-

tion but also on the emulsifier used and the method of mixing employed in preparing the emulsion.

New materials are constantly being tested and evaluated at the Citrus Experiment Station. When a new and apparently promising material does not give the expected results, residue data help to answer the entomologist's question: Did the test fail because the experimental material won't do the job or did it fail because the material wasn't there in sufficient amounts? The latter could be the case if the spray job was a poor one or if the residue had been reduced by weathering, such as a heavy rain.

When it became apparent that some of the new pesticides coming into use, especially the organics, presented the possibility of toxic hazard to man, residue analyses were expected to include fresh fruit and juice both single strength and concentrate. With the processing facilities at the Citrus Experiment Station it is possible to obtain samples of fruit or juice for residue analysis at any and all stages of processing.

Members of the staff of the Citrus Experiment Station appeared before the Food and Drug Administration in March 1950 and presented testimony on residues in citrus fruits and juices. Detailed data were submitted on many materials including parathion, arsenic, zinc, copper, sulfur and oil. In addition, we have cooperated in the past and are continuing to cooperate with pesticide manufacturers in obtaining data of this kind.

The enactment of the Miller Bill has necessitated a review of current recommendations on pesticides used on citrus. At this time tolerances have been established for all but two of the materials commonly used on Florida citrus trees and it is hoped that clarification of the status of these two will be obtained in the near future. Because of the nature of citrus fruit and because of the handling and processing procedures employed, we feel confident that residues of chemicals applied in accordance with the latest recommendations will be well below established tolerances. Thus far, data obtained at the Citrus Experiment Station and data received from various other sources have confirmed this belief.

It would be most helpful in testing new materials if the Food and Drug Administration

would see fit to announce a firm policy in regard to the type of data they require in order to establish tolerances. For example a tolerance has been established for a certain material on oranges and lemons, but not on grapefruit. Will it be necessary to obtain residue data for each variety of citrus? Further, we have been under the impression that tolerances are established on a whole fruit basis but occasionally bits of information have come to us that indicate that this is not always the case.

In conclusion, work on pesticide residues is now being carried out and will be continued in the future with the dual purpose of helping to evaluate new and promising materials and insuring that recommended materials will meet legal requirements.

SOME SOURCES OF INFORMATION PERTAINING TO PESTICIDE RESIDUES AND TOLERANCES

JAMES E. BROGDON

Agricultural Extension Service

Gainesville

Forrest Myers and I represent the Agricultural Extension Service and will divide 5 minutes between us. We will tell you about some sources of information pertaining to the Miller Bill and related subjects.

The Federal Register is the authoritative source of information concerning pesticide residues and tolerances. In other words, it is the last word. Residue information is only a part of the Federal Register and does not appear in all issues. It is published daily except Sundays, Mondays, and days following official Federal holidays, by the Federal Register Division, National Archives and Records Service, General Services Administration. Distribution is made only by the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

The Federal Register is furnished by mail to subscribers, free of postage, for \$1.50 per month or \$15 per year, payable in advance. Individual copies may be purchased.

There are no restrictions on the republication of material appearing in the Federal Register.

We feel that it is our duty in the Agricultural Extension Service to search the Federal Register and make appropriate material available to growers and others interested in it.

Industry magazines such as *Agricultural Chemicals* and *National Agricultural Chemicals Association News and Pesticide Review* along with many others, bring information on residues and tolerances to the attention of their readers.

The USDA has located a laboratory at the Coastal Plains Experiment Station, Tifton, Georgia, to study residues and control of insects on forage and cover crops. Entomologists and chemists will carry out this work. The results will, no doubt, be made available to Florida.

Insecticide labels are another source of information that should not be overlooked. Many informal tolerances have been in effect for some time and manufacturers generally have been required to show that if their directions are followed, residues less than the tolerance would result.

PUBLICATIONS AND RECOMMENDATIONS

FORREST E. MYERS

Agricultural Extension Service

Gainesville

My portion of the initial remarks was to review what information we have developed on the topic in vegetable crops.

If you want benefit of an attempt to single out some of the more pertinent information summarized for Florida vegetables, study a copy of University of Florida Agricultural Extension Service Circular 140. This was prepared in cooperation with Florida Agricultural Experiment Stations, Florida Agricultural Research Institute, and Florida Fruit and Vegetable Association. It includes portions of the regulations, some interpretations, and in chart form summarizes limits of Florida Station residue research on vegetables to date. Copies are available. I am in position to give you my version of some pertinent changes which have come about since July 22, the date of the circular.

As to the '55-56 pesticide recommendations. In cooperation with Florida Station research

workers and others, past recommendations were reviewed and revised last summer and as of August 30th were put in the hands of all County Agricultural Agents. The same information was supplied the cooperating research workers, then put in manuscript form and presented for publication on September 20th. It is not yet available for general distribution, but it has been available for use for some time. It is now being mimeographed.

The above materials do not answer all the questions — none do — however, under existing conditions, as presented, these two approaches have met many needs.

PROBLEMS OF THE MANUFACTURER

M. C. VANHORN, *Vice-Pres.*

Florida Agricultural Supply Co.

Jacksonville

Dr. Fifield, Chairman of this Panel, has asked that I point out some of the problems of the manufacturer, distributor and dealers of pesticides in light of Public Law No. 518, now commonly known as the Miller Pesticide Chemical Amendment.

Under this law it is vital that everyone connected with the Pesticide Industry, including the grower, pay more attention to and adhere more closely to the proper recommendations than ever before. The label declaration on the pesticides is a part of this program. It must contain recommendations which are practical and *when followed* the resultant residue on the raw agricultural commodity will not exceed the tolerance. It is necessary that these recommendations on labels, in literature, etc., be correlated with those of the government agency, particularly local Federal or State Experiment Stations, in order to assure that they meet these requirements. All statements must be approved by the Labeling or Registration Section of either the State or Federal Government, or both, depending on whether the business is intra or inter-state. I understand that we have a representative of both the State and Federal Department with us here today who handle or are responsible for such matters. We are pleased they are with us.

Even though Food & Drug have established a Tolerance we still must obtain U.S.D.A.

approval of the label for inter-state movement of the product.

A pesticide chemical should not be recommended for use on any crop if it will result in a residue problem in excess of the tolerance. If no tolerance has been set, then the residue is zero and the material should not be used if a harmful residue will result.

It appears almost certain that the immediate introduction of new pesticide chemicals will be slowed down as a direct result of the requirements of this law. That the cost of bringing new products along to field or commercial usage will be greatly increased. The problems of developing necessary data, especially toxicological, are not easy. They will require both time and capital and considerable of both.

The field testing of new products is an issue which presents new problems on which the answers to me are not clear at this time.

The need for a local qualified commercial staff and laboratory for the proper taking, preparation and testing of samples of raw agricultural commodities for residue determination seems indicated and to my knowledge few if any such specialized unit exists today.

The cooperation of all concerned in producing raw agricultural commodities which come under this law will be required in order that the venture can be successful. This can best be done by educational methods and we definitely need to educate all phases of Industry, especially the salesman and/or dealer who contact the grower or the person who makes the final decision as to the usage program. This data, of course, should be passed on to the spray crew foreman or the person in immediate supervision of the work.

We should pay particular attention to the dealer and salesman. Dr. Palm of Cornell University states, and I quote, "The dealer is still a most important man in aiding farmers with the selection and use of a pesticide."

To this I agree and I feel we should all work towards a better educational program as a whole, but particularly at the level where the final decision on usage is made. The correct use of pesticides within the framework of Public Law No. 518 is vital to all of us, including our children.

CHEMICAL ANALYSIS OF PESTICIDE RESIDUE REMAINING ON FRESH VEGETABLES BY THE FLORIDA AGRICULTURAL EXPERIMENT STATION

C. H. VAN MIDDELEM

Florida Agricultural Experiment Station

Gainesville

Research on vegetable pesticide residues in Florida was initiated during the 1950-1951 growing season at the Central Florida Agricultural Experiment Station in cooperation with several other Branch Stations in the State. Shortly thereafter, a residue laboratory was established in the Horticulture Department at Gainesville. Since then, over 65 separate field experiments have been carried out with cooperating Station entomologists located at Belle Glade, Bradenton, Gainesville, Hastings, Homestead and Sanford.

Considerable insecticide residue tests have been conducted on celery, cabbage, snap beans and tomatoes because of their economic importance in the state. More limited studies have also been made on 14 other vegetables grown commercially in Florida. Most of the analyses to date have been for toxaphene, DDT, chlordane, parathion, malathion and systox residues remaining on or in some of the vegetables mentioned above. In the chemical analysis of these insecticides, wherever possible, only specific colorimetric procedures approved by the Food and Drug Administration were utilized.

Every effort was made to get the best possible representative samples for chemical analyses from replicated field tests. Insecticides were applied using conventional equipment wherever possible and by following the station's recommended formulations and dosage rates. Moreover, some experiments included more and heavier applications than recommended, in an endeavor to determine the residues that an occasional over-enthusiastic grower might experience. Vegetables were sampled to insure that the maximum residue would be found. In many experiments, samples were taken immediately after the last application as well as one, two and three weeks after to study the residue breakdown due to the

various weathering and growth processes. Rainfall and temperature data were recorded whenever possible.

Although a substantial amount of information is available, additional residue research will be required on other insecticides and fungicides for which official tolerances have been or will be established shortly. Evaluation and modification of methods for the analyses of promising new pesticides, prior to approval for commercial usage, must be carried on concurrently. As soon as the residue data on a given crop have been verified by replicated field tests in several areas, the results will be made available in a practical form to the growers of the state.

The Florida Station is cooperating on Southern Regional Project S-22 with the Agricultural Experiment Stations of Arkansas, North and South Carolina, Texas and Puerto Rico. This regional project on pesticide residues is divided into three sub-projects entitled: (A) — Chemical and Biological Analysis, (B)—Plant and Soil Sampling, (C) — Effects on Plants and Soils. The Florida and North Carolina Stations are cooperating on sub-projects (A) and (B) while the other Stations are concentrating on (C) except Arkansas which is initiating work on bioassay technique under sub-project (A) as well as cooperating to a limited extent on (C).

There are two allied regional projects in progress in the Northeastern and Northcentral states. The Northeastern project is entitled "The Effect of Pesticides on Quality of Fruits and Vegetables", whereas the project in the Northcentral area is called "Reduction of Hazards in the Use of Pesticides". Each of these regions are currently drawing up supplementary projects on pesticide residue analyses which will probably be more closely related to Southern Regional Project S-22.

It is anticipated that there will be increasing cooperation and a free exchange of information and ideas not only between the cooperating Southern states, but with states from other regions which may have common interests in a potential residue problem on certain fresh vegetables being prepared for interstate commerce.

THE ROLE OF EXPERIMENT STATION ENTOMOLOGISTS IN ADMINISTRATION OF THE MILLER PESTICIDE RESIDUE AMENDMENT

A. N. Tissot*

*Florida Agricultural Experiment Station
Gainesville*

Many different organizations are involved in the practical application of Public Law 518. Each of these groups has certain responsibilities and duties and all must work together if the measure is to function properly. In the few minutes allotted me I wish to very briefly discuss the functions and responsibilities of experiment station entomologists in this very important undertaking.

One of our most important functions is to evaluate insecticides under Florida conditions. The manufacturers of new insecticides demonstrate that their products will kill pests and they know something of their effects on plants or animals; but obviously they cannot test the materials in all parts of the country and all sorts of conditions. At that point the experiment station entomologist can step into the picture. Florida is especially fortunate in that regard for we have entomologists in practically all of the important crop producing areas of the state. By carefully planning and coordinating their experiments these men can very quickly accumulate an impressive amount of information on an insecticide. They can determine what pests can be controlled, how much material is needed to do a good job and how frequently it must be used. They also can learn how it affects the plants on which it is used and whether it is likely to upset the balance of nature by killing off too many beneficial forms or from accumulations of the material in the soil or elsewhere.

The work of the entomologists has a more direct bearing on the administration of the pesticide residue law. They keep accurate records of the kinds and amounts of materials used in their tests and they know when and under what conditions they are applied. This information enables the entomologists to provide excellent samples for chemical analysis to determine the amounts of insecticide residue

* Read by R. E. Waites.

on the crops. Dozens of samples supplied by Florida Experiment Station entomologists have gone to the laboratory in Gainesville where they were analyzed by Dr. Van Middlem. Many other samples have been sent to insecticide manufacturers for analysis in their laboratories.

The information thus obtained has several practical applications. Tremendous amounts of insecticide testing data and residue determinations were presented to the Food and Drug Administration at the hearings in 1950 and on other occasions since then. This information was considered during their deliberations and it played an important part in deciding the amounts of insecticide residue that would be tolerated on various products. Without doubt similar data will continue to be used in the same way for establishing tolerances on new materials that may be developed and released in years to come. The entomologists will continue to do their part in this effort.

For a long time Experiment Station entomologists have obtained and passed on to Florida farmers dependable and useful information on pest control. As a result of their experiments, the entomologists can tell farmers what materials will most effectively and economically control the pests that attack their crops and livestock. Some of this information is given directly by personal visits and letters but a great many more farmers are reached with bulletins, circulars and other publications and especially through the efforts of the Agricultural Extension Service. The entomologists working with Dr. Van Middlem and other chemists and in cooperation with the Extension Service now are able to pass on to Florida growers some helpful advice and suggestions that should enable them to comply with the provisions and requirements of the Pesticide Residue Bill without too much difficulty. Circular 140 which was released only a few weeks ago was published for the purpose of making pertinent information available to Florida growers as quickly as possible.

THE ROLE OF THE PLANT PATHOLOGIST IN THE ADMINISTRATION OF THE MILLER PESTICIDE RESIDUE AMENDMENT

PHARES DECKER

*Florida Agricultural Experiment Station
Gainesville*

The practical application of Public Law 518 is designed to insure safe agriculture products being consumed by the American people. It is not to limit the use of fungicides in agriculture. We are all 100 percent in favor of this objective.

History records thousands of deaths to animals including man as caused directly or indirectly by plant diseases. Ergot of grains was responsible for black plagues in Europe; late blight of potatoes for great famine in Ireland; and rust of cereals in the United States in 1914 and again in 1935 caused great economic losses. The United States Department of Agriculture has placed the financial losses to agriculture as caused by plant diseases alone at three billion dollars a year. In these times of huge surpluses of many agriculture products this figure may have little meaning. Nevertheless, a large part of this figure is made up of cost of production which includes the cost of plant protection from plant diseases.

A stable agriculture in this country is based upon the use of pesticides. This is an established fact. To continue to support this stable agriculture endeavor the use of pesticides must be economical and effective without endangering the health of the processors, users and consumers. This is where the Plant Pathologist can offer the most benefit to the programs of disease control that growers are using today and will be using tomorrow.

Some of the fungicidal materials used at the turn of the century are still in use today, such as coppers, sulfurs and mercuries. To this list many new synthetic fungicides have been added and new ones are being added almost daily. The development and use of a new fungicide is not a hit-and-miss procedure, but a well organized and scientific procedure. The manufacturers develop the new materials and establish certain of their characteristics, such as toxicity to plant and animal life. The

Plant Pathologist then becomes the service arm determining what disease organisms are killed by the material and under what conditions they can be used effectively for plant disease control in Florida. In order to establish this information many laboratory, greenhouse and field experiments are conducted with the disease producing organism on growing plants. Time and number of applications of the fungicide necessary for disease control are established. The most effective concentration of the material is determined. The effect upon the plant growth and yield are established. These data enable the Plant Pathologist to determine if the fungicide can be used effectively. Is it economical in cost and application, and offer no hazard to plant and animal life? Many times this information is immediately available to the growers by experiments conducted on their farms or through the grower's contact with the units of the Experiment Stations. The manufacturer's recommendations as printed on the package offered for sale are determined by these experiments.

Once this information is established by your research workers, the growers can feel reasonably certain that the fungicide will perform as recommended. It is wise to follow these recommendations very closely, as to time and amounts applied to the growing crops.

It has been said "rules and regulations were made to be broken." This might be true, but the recommendations for the uses of fungicides and pesticides are established to protect you, the grower, "let us follow them."

MR. HOLLAND: I would like to attempt to bring out a few points that were cordially discussed during a conference held earlier today: —

The Food and Drug Administration undoubtedly realizes that Florida is one of the three winter-producing areas, which will be the first to experience the new program.

You folks will have some activities in Florida, in which you will be taking some samples and checking up on recommended spray programs and related things and sending samples to and making analyses in the Atlanta laboratory and sending some of the results and other

information back to Florida. You mentioned the State Food and Drug Control Officials. Would you also be willing to send information to one address at the University so that all farm and other interested groups could receive the information from one of those two Florida sources?

MR. RANKIN: It could be worked out.

MR. FIFIELD: Mr. Rankin, would you like to comment a little more fully on these points raised in the question and some things that have come up in the panel? To elaborate the second point: How are samples to be collected and how are tests going to be run?

MR. RANKIN: We will have inspectors in the various growing areas prior to harvest time, perhaps even about planting time, to determine what the recommended spray schedules are. Already we have examined many spray schedules and find, in general, that residues were within the tolerance levels that have been set. Then, during the growing season before harvest, the inspectors will be collecting a few samples from fields and then from the shipping points. These will be sent to laboratories in Atlanta or in Washington and examined to determine what residue should remain. The results of these analyses will not be available generally before food is shipped and consumed. There is generally a time lag of several days there. And finally, some samples will be collected at points of consumption at the larger cities to confirm the observations that accepted spray schedules are holding residues within the tolerances.

QUESTION FROM THE FLOOR: I picked up a box of strawberries grown by a small grower and sold. I found that the box smelled of parathion. I made some inquiries and then went to suppliers. I found that dealers were advising growers that they could pick strawberries, then dust them, let them go 72 hours, then pick them again and market immediately. I am wondering if there isn't a serious problem of local poisoning there? They admitted 1% dust. How is that kind of thing going to be handled?

MR. FIFIELD: The Pure Food and Drug Administration is concerned primarily with interstate commerce produce. It is anticipated that state regulations will cover things like

this. That question will be considered and I rather suspect, although I have no authority, that state regulations will parallel federal regulations. That is the general pattern and it will be the responsibility of the state investigation agency.

QUESTION FROM FLOOR: Mr. Rankin, I won't name the chemical or what we do in connection with grapefruit to rush maturity. There came out an article a few days ago about a scientist in North Carolina, a Doctor who said the particular treatment we gave grapefruit, if used on other fruit, would be detrimental as it went into the fruit and did not remain on the outside. Are you taking that into consideration in Washington?

MR. FIFIELD: There has been in the past the practice of using certain chemicals on some crops to hasten maturity or improve quality and this man from North Carolina came out with article saying that it was not beneficial, but actually harmful. What is the Pure Food and Drug Administration going to do?

MR. RANKIN: We have set a tolerance for this unnamed chemical and feel that it is a safe tolerance.

MR. HOLLAND: We will need, anticipate and welcome cooperation of and with your inspectors. How will they operate, will they contact local officials, growers and others?

MR. RANKIN: First, I would like to say that a great many of our inspectors grew up on a farm and they have parents who still are farmers and those who don't come from the farm are close enough to it so that all of us are agreed that people in Florida supplying us with food are honorable citizens. We are not coming around as though to approach you or poison you with information. We are satisfied that, through cooperation, through a frank approach to this problem that has to have attention, we can accomplish a great deal more than we can by gum-shoe methods. Our men will come to your state representatives, the state experiment stations and state chemists. They will discuss our programs quite frequently. They will solicit your advice. They will give advice wherever it is possible. We hope to work with you in an above-the-board, man-to-man fashion.