

-----X
P U B L I C H E A R I N G :

in the matter of :

O R G A N I C F O O D S :

-----X
BEFORE:

L O U I S J. L E F K O W I T Z,
Attorney General of the State of New York

ALSO PRESENT:

B A R N E T T L E V Y, Assistant
Attorney General in charge of the
Bureau of Consumer Frauds & Protection

S T E P H E N M I N D E L L, Assistant
Attorney General of the State of New York

T H E L M A L I C H T B L A U, Consumer
Education Specialist of the State of New York

HELD AT:

80 Centre Street, New York, New York on
December 1, 1972, at 10:20 o'clock A.M.

MR. LEFKOWITZ: I am just going to make a very short statement. First let me thank those who are attending this hearing, both those who are attending and those coming here as members of the public interested in what I consider a very important subject.

The food industry forms a major segment of our economy and its practices directly affect the health and welfare of everyone.

The Attorney General's Office has received many questions and complaints about the merchandising of so-called organic and health foods.

Confusion reigns supreme in the organic food market place. Whether these foods are nutritionally superior, whether the alleged organic foods are pesticide free, the so-called natural foods additive free, and whether the frequently doubled cost of these foods over regular foods is really giving the consumer his dollars' worth, is our topic today.

Much distrust and anger is being voiced by consumers purchasing these foods at having to pay more without really knowing if they are getting more nutritional value

for their dollar.

To date there are no rules, regulations, or guidelines covering the sale of organic foodstuffs, or even legal definitions for the terms "Organic" and "Natural". Retailers frequently use these terms loosely and synonymously in the advertising and labelling of their products, and in addition place reliance all too often on word of mouth recommendations, or old or outdated laboratory reports.

Seeking a universal cure-all for aches and pains, as well as the new and unusual, more and more people of all age brackets are buying these foods, resulting in an overwhelming increase in retail sales during the last few years.

The purpose of this hearing is neither to condemn nor condone organic or natural foods. We hope instead to alert the public to the pitfalls which may exist, help those who purchase these foodstuffs to do so more wisely, and in addition increase the awareness of the legitimate organic food dealers to the misrepresentations being made by the fraudulent health food promoter, who does much to blacken the eye of the entire industry.

By presenting the results of our inquiry, as well as the opinions of the experts in the field of health and nutrition, we hope the consuming public will be better equipped to understand the nature of food purchases, and will be able to spend food dollars wisely. This is especially important in this period of ever-rising food prices.

When this is over I will evaluate the testimony, take it up with my staff and there are several alternatives.

We may get together with the entire industry to have some regulations made and then we'll have a choice of recommending some legislation if that's necessary and any other things that I think has to be done to protect the public and to protect those who are legitimate honest business people. That's been our attitude for sixteen years. We are not condemning everybody. We are here to learn and I will be hearing, as you will, the testimony from the lips of the people who we regard as experts in this field.

So, with that I am going to ask Stephen Mindell, Assistant Attorney General to start

this hearing.

MR. MINDELL: I would like to call the first witness, Vincent White, Confidential Investigator for the Bureau of Consumer Frauds and Protection.

EXAMINATION BY MR. MINDELL:

Q Mr. White, you are an investigator in the Attorney General's Office assigned to the Bureau of Consumer Frauds and Protection?

A Yes sir.

Q And you have been in that capacity for approximately two years?

A That's right, sir.

Q Now, in the course of your official duties, did you make a survey of health stores selling organic food in and around the area of New York City?

A Yes sir.

Q And did that survey consist of your visiting approximately twenty-five stores?

A Yes sir, that's correct.

Q And did you visit those stores in the guise of a customer who is interested in learning about why you should purchase organic food?

A That's correct, sir.

Q And when you entered the stores, you did not identify yourself officially but told the individual that you saw, that you had recently arrived from Panama and that you were interested in perhaps purchasing organic food?

A Yes sir, that was my cover story.

Q Did you find a pattern of representation existed among the stores that you visited as to the virtues of organic food?

A Yes sir, the general consensus was that they were pesticide free, they were more nutritious and that they would be healthier in the long run if consumer by an individual.

Q Were any examples given to you of what would happen if you purchased organic food in regard to illness, was that stressed?

A Yes, there were a few establishments who told me that if you are a little heavy, and you eat organically grown food, you might lose some weight or you might be free of diabetes.

Q I see. Did someone tell you that you would not catch cold as easily?

A No sir.

Q Now, Mr. White, did you act as a professional chef before coming to the Attorney General's Office?

A Yes sir, for approximately two years.

Q And so you had some knowledge of foods?

A That's correct, sir.

Q And did you compare the prices of the foods, the organic foods that you shpped for with the prices of ordinary food? You can use that to distinguish organic food in local supermarkets?

A That's right, that's correct, sir.

Q And did you find, generally, that the prices of organic foods were usually two times or more the price of the regular foods?

A That's about right. About 50% more than the regular foods.

Q Could you give us some specific examples of that?

A For instance, beef chuck, I found in mahy of the establishments the price ranging from \$1.80 to \$2.10 a pound in contrast to the regular food market store of \$.79 to \$1.09.

Ground beef, the prices in organic stores were \$2.45 to \$2.55 in range and the regular supermarket was \$.69 to approximately \$.98.

Eggs, in organic food stores it was 85 to \$1.00 per dozen in contrast to \$.67 per dozen to \$.77 per dozen in the regular food channels.

Q Did any specific food example stick in your mind, Mr. White?

A Yes, the eggs. I asked in several establishments why is it necessary to charge the inflated price for the eggs and I was told that these eggs were produced by organically grown chickens, that these chickens were free of hormones and they were allowed to roam free with the rooster and that's the reason why they had to charge the prices they are charging for the eggs.

Q Did you come upon a store that was selling fish?

A Yes.

Q What was the price of that fish compared to ordinary fish, non-organic fish?

A Okay, for instance, the organic flounder ranging in price from \$1.88 to \$1.99 a pound in contrast to the regular supermarket \$1.25 to \$1.78.

Q Did the man selling the fish tell you why it was organic?

A Yes, he claimed that it was caught in the pollution free mineral rich Atlantic Ocean.

Q Did he have a sign to that effect, Mr. White?

A Yes, he had a sign. I took a picture of that sign after interviewing the gentleman in the store.

MR. MINDELL: I have no further questions, Mr. Lefkowitz, unless you have.

Thank you.

MR. LEFKOWITZ: Call your next witness.

MR. MINDELL: Our next witness is

Dr. Elmer George.

EXAMINATION BY MR. MINDELL:

Q Dr. George, will you state your official capacity?

A Yes, I am director of the New York State Food Laboratory. That is a part of the Department of Agriculture and Markets. Our laboratory is in Albany, New York.

Q And you are a scientist are you not, a microbiologist?

A I have a PhD in microbiology and biochemistry.

Q Now, Dr. George, could you tell us the college which you attended?

A I received my BS and MS degrees at Utah State University and my PhD at the University of Minnesota in 1964.

Q How long have you worked for the State of New York?

A Approximately eight years.

Q And what are your general functions as director of the laboratory?

A As director of the laboratory, I coordinate, direct the activities in the chemistry and the microbiological laboratory testing foods for adulterous

contamination, mis-branding and so forth.

Q Dr. George, I'd like to preface your testimony by pointing out to Mr. Lefkowitz and the other people who are with us today that in conjunction with the Department of Agriculture and Markets of the State of New York, the Bureau of Consumer Frauds and Protection of Attorney General Lefkowitz's Office, jointly made purchases of approximately fifty-five food products which were designated by labeling as being organic food products, is that correct?

A That's correct.

Q And your inspectors accompanied investigators from our office in making those purchases, is that correct?

A That's my understanding.

Q And those purchases were made at the various stores throughout the Metropolitan area?

A Yes.

Q So that a fairly wide sampling was obtained and not limited to one particular neighborhood or store?

A That's my understanding.

Q Now, of the fifty-five items that were purchased jointly with the Department of Agriculture, they were submitted to you, were they not, for purposes of analysis?

A That's correct.

Q And could you state out of the fifty-five samples, the number that you found to be mis-branded?

A We examined the fifty-five and of the fifty-five, seventeen samples we found to contain pesticide residue.

Q That would be approximately 30%?

A Approximately 30%.

Q Is that correct?

A Yes.

MR. LEFKOWITZ: Can you describe the article you are talking about.

MR. MINDELL: Yes. We are going to.

Q Now, Dr. George, do you, during the year, analyze food samplings for pesticide residue?

A Yes, the laboratory analyses approximately thirty-eight thousand samples a year for a wide variety of reasons and approximately two thousand samples are analysed for pesticide residue.

Q I might ask you -- perhaps we should have prefaced this by stating that organic foods are generally sold as being free of pesticide residues, are they not?

A This is a general understanding that they are produced without pesticides and without fertilizers.

Q This was one of the representations that was made to Mr. White repeatedly that the organic foods were free of pesticides?

A However, I also feel that perhaps maybe other than that the people that are interested and knowledgeable

in this field may not understand the meaning of the term or what it implies --

MR. LEFKOWITZ: Hold it a minute.

Does the industry use that word organic free. That it is free from pesticides. Is that the industry's feeling?

DR. GEORGE: This is my understanding. This is the impression they create or give to the public. When they buy organic food, it is free from pesticides. That's correct.

Q Dr. George, of the two thousand foods that you sample each year, what percentage do you find have pesticide residue?

A Approximately 20% of the two thousand samples contain trace quantities of pesticide residues. Of the two thousand, approximately 1% have levels that are in excess of the approved tolerances.

Q These are not necessarily organic foods. These are foods that you would normally pick up in a food store, is that correct?

A That's correct.

Q By the way, is there any scientific way to distinguish between organic foods and non-organically grown foods? Could that be determined in a laboratory?

A If the definition includes a production

without pesticides then the laboratory would be able to tell whether or not pesticides are present, but if they are absent, then one could not say this, that pesticides were or were not used.

MR. LEFKOWITZ: When you speak of pesticides, you are speaking of some sprays that are used to kill bugs?

DR. GEORGE: Yes.

Q Well, Dr. George, I would like now to refer with you to this chart that you and I under Mr. Lefkowitz's direction caused to be produced yesterday. We have two charts and let's talk about the one here first. This chart was drawn, Judge Lefkowitz, to reflect the findings of the laboratory that Dr. George has referred to. Looking at this chart, Dr. George, does it accurately reflect those findings?

A Yes, it does. I've gone over it carefully and it does.

Q Can we go over them by item. Now, this was a spinach item that we purchased, was it not?

A Yes.

Q And the label read "unsprayed organically grown, no chemical residue".

A Yes.

Q And what did you find?

A We found a residue. We found a residue, chemical residue, a phosphated compound at a level of 0.07 parts per million based on Diazanon. This is a chemical residue and it's not found in ordinary spinach. We were not able to identify it however.

Q I see. Would one be likely to possibly find this in ordinary spinach?

A No, he would not.

Q And yet this produce was labeled no chemical residue?

A That's correct.

Q And we might point out that Mrs. Lichtblau of our office, our education specialist caused the comparative pricing to be made of this product and found that the difference was \$.75 versus the cost of ordinary food of \$.39.

Now, in regard to organic dried apricots, the product was marked no fumigants, no pesticides and what was the finding of the lab there?

A The laboratory found .03 parts per million of DDT a pesticide.

MR. LEFKOWITZ: Mr. Mindell, were all those products purchased as so-called organic foods?

DR. GEORGE: No, in health food stores.

MR. LEFKOWITZ: Alright, health food stores, that's the label on the outside, health food stores.

MR. MINDELL: Yes, sir.

Q Would one be likely to find this amount of DDT or possibly find that in ordinary food?

A It can be found in ordinary dried apricots at that low level.

Q So that the consumer was actually not getting his monies worth if he bought it for the purpose of buying it without pesticides because had he bought normal apricots or regular apricots he might find the same thing?

A Possibly, yes. There again, I won't read all these prices off but you will find in each case, Attorney General, that the prices are almost double and more in some cases. If my math is correct the organic foods involved in this survey are all substantially more than the regular foods.

Q Now, in regard to carrots. There again, one of the representations on the label was toxic pesticides, fungicides, fumigants and grown without chemical or artificial fertilizers. What did you find in regard to that?

A We found 0.19 parts per million of DDT and 0.07 parts per million of DDE, a metabolite of DDT, both are pesticides.

Q And might those levels be found in ordinary carrots, not organic carrots?

A Yes.

Q Here again, the consumer would not be getting what he thought he would be getting?

A At the same levels also.

Q In regard to the cereal Wheat Berries labeled absolutely guaranteed organic, what did you find in reference to that?

A Well, 0.02 parts per million of DDT a pesticide.

Q And again referring back to the ordinary, commonly regarded definition of organic, that it would be free from pesticides, this would tend to refute that kind of thinking.

A Yes, it would.

Q What was the problem with the pickled beets?

A The pickled beets on the label, a claim was made that it contained no acids. We found acetic acid.

Q Alright, Turning to elbows. That would be elbow macaroni?

A Macaroni products.

Q And that was also labeled absolutely guaranteed organic and what did your laboratory test find?

A We found an unidentified phosphated compound at a level of 0.19 parts per million based on Diazanon. I might say we have analyzed quite a few macaroni products and this is not normally found in the product.

Q Again that would then tend to directly refute this type of representation on the label?

A Yes.

Q Alright. Next item, cashew nuts. What was the problem there? What did the lab find after reading the representation, natural organic, full of nutrition, extra large, superior quality, freshly shelled, wholesome, flavorful, carefully selected, protein rich.

A The laboratory found .18 parts per million of BHC, a chlorinated pesticide and this is not unusual to find this pesticide in cashew nuts.

Q In other words, ordinary cashew nuts could contain the same?

A Yes.

Q And so there again, the consumer was not getting what he thought he was getting if he was buying the organic cashew nuts with the intention of avoiding pesticides?

A Yes.

Q There again, he was paying \$1.10 when he could have been paying \$.59 for the same product?

A Yes.

Q Next we tested a tea product, did we not, which was marked 100% natural organic and what did we find there? Are there any tolerances incidentally, Dr. George, pesticide tolerance with reference to tea?

A There are no pesticide tolerances for tea. Under these conditions then we would assume there is a zero tolerance for pesticides in the product.

Q And yet in this organically sold tea, natural organic, you found that there was a pesticide residue, is that correct?

A Yes.

Q And what was the significance of the unidentified phosphorolated compound?

A It's a chemical residue. We can't identify it as a pesticide. Not normally found in tea. There are three other pesticides as you will note that are found in this product.

Q Could you specify what they are?

A Yes, 4.00 parts per million of BHC, a chlorinated pesticide, 5.13 parts per million of DDT Analogs, 0.54 parts per million of Phenthion.

Q Alright, now continuing if we will, we purchased another package of carrots which were labeled organic carrots and there again what was the finding?

A The laboratory found 0.02 parts per million of DDE.

Q And then again one might find that same level in ordinary carrots. I mean carrots that one would purchase for \$.25 a pound?

A Yes, one could. That's correct.

Q One is really not getting what one bargained for even though one is paying considerably more?

A That's correct.

Q We bought another tea product which was labeled 100% natural organic flower tea and there again you made the point shortly before that there was no tolerance established for chemical residues in tea?

A This is pesticide residue, correct.

Q Nevertheless, you did find a pesticide residue in this tea also?

A We found three chlorinated pesticide residues, 2.98 parts per million DDT, 2.02 parts per million Lindane and 0.17 parts per million Dieldrin.

Q Alright. We then purchased raisins, which were labeled organic raisins, and then

again -- Ethion, is that a pesticide residue?

A It is.

Q And would one likely find that type of residue in that quantity in ordinary raisins?

A One may.

Q So that there again the consumer, if he was seeking to purchase the raisins to avoid the pesticide residue that he might find in ordinary raisins would not be achieving that result in this instance?

A That's correct.

Q Now, we have a similar situation, do we not, with the dried prunes that we purchased and analyzed?

A Yes, sir.

Q And there again would you explain what the findings are?

A The laboratory found .5 parts per million of Kelthane; and .04 parts per million of DDT and .02 parts per million of Methoxychlor. These are pesticides also.

Q These are pesticides are they not?

A Yes.

Q These would be likely to be found in ordinary dried prunes, would they not?

A They could be found in dried prunes.

Q And so there again the consumer would be paying for a product that he might think was pesticide free but in fact was not?

A Yes sir.

Q We then bought a relish which I believe is referred to as chow-chow, is that correct?

A Yes.

Q And that was labeled as organic chow?

A Yes sir.

Q And what did we find in reference to that?

A .02 parts per million TDE.

Q There again one might find that same amount in ordinary relish?

A One could.

Q So there again there was no significant difference in the amount between that ordinary relish and organic

relish, this particular organic relish?

A That's right sir.

Q We purchased a candy called sesame-candy labeled an organic chew?

A Yes sir.

Q And what did they find in reference to that candy?

A .03 parts per million of Ethion.

Q One might find that same amount in ordinary sesame-candy?

A One could.

Q There again then the same thing that we've been saying was true here?

A A candy with sesame seeds.

Q A candy with sesame seeds ordinarily might contain that same chemical residue in that amount.

A Candy per se without organic material plant source you normally wouldn't expect to find pesticides unless an accident occurred.

Q You would not ordinarily find a chemical?

A Yes.

Q The customer, the consumer here was buying an organic candy and actually winding up perhaps with a residue that he might not have wound up with if he bought

a regular piece of candy?

A If he is buying a sesame-candy he very well might find Ethion in the product.

MR. LEFKOWITZ: What is the price difference?

MR. MINDELL: 3 oz. at 41¢ for organic food and 3 oz. at 93¢, or \$.21 for a 3oz. piece of regular food.

MRS. LICHTBLAU: Twice as much.

Q We also purchased beets labeled as organic beets and there again we found a chemical pesticide residue?

A Yes.

Q Might one find that same level in ordinary beets?

A One could.

Q And finally you analyzed a fruit cereal which we purchased which was listed as natural organic and you found what sir?

A 0.21 parts per million of Malathion and that is a pesticide. One might expect to find this in a fruit cereal.

Q Dr. George, summarizing our findings then in over 25% or between 25 and 30 per cent of these particular products which we purchased at random with no prior knowledge

of what brands or types of food we find that there is a pesticide residue which is equal in amount or can be equal in amount to that which is found in ordinary food, food which is not purchased as organic food, is that correct?

A That's correct, and the incident is fairly close to what we normally find in ordinary samples.

Q And I would say generally what I suppose is the obvious that it appears to us that this is a very significant percentage of mis-branding which came out of this survey that we conducted. Is there anything you'd like to add to what we have said doctor?

A No sir.

MR. LEFKOWITZ: May I ask the doctor, have you any idea of the volume. I want to get some facts. Do you have the results of the tests you took? Do you have any idea of the volume of foods of this type that is sold?

DR. GEORGE: No sir. That perhaps would be handled by the medical department.

MR. LEFKOWITZ: I see. that's available to us. If we can get it, is it available?

DR. GEORGE: That may be available from the Marketing Bureau in our department.

MR. LEFKOWITZ: To your knowledge has the sale of organic foods been on the increase in

the last few years?

DR. GEORGE: This is my understanding.

MR. MINDELL: I understand in 1971 the organic food industry had retail sales of 100,000,000 and it has grown to between 300 and 400 million dollars annually.

MR. LEFKOWITZ: Is this a state-wide figure?

MR. MINDELL: No, it is a national figure.

MR. LEFKOWITZ: Where did you get your figures from?

MRS. LICHTBLAU: Through a national survey.

MR. MINDELL: I have no further questions.

Thank you very much.

MR. LEFKOWITZ: Thank you very much for coming here.

MR. MINDELL: I would like to call Dr. George Christakis.

EXAMINATION BY MR. MINDELL:

Q Will you give your full name to the hearing reporter?

A George Christakis.

Q And you are Director of Nutrition Division and

Professor of Community Medicine and Nutrition Department
of Community Medicine of Mount Sinai Medical Center?

A. That's correct sir.

Q. And you are an expert in, are you not, in diets?

A. Nutrition.

Q. And I might say that we have called upon you
many times in the past in dealing with fraud relating to
diet pills, have we not?

A. Yes.

Q. And you have always responded and helped us in our
court cases?

A. Yes.

Q. Could you give us a little bit about your pro-
fessional background?

A. Graduate of New York University BA, Graduate
School of Columbia University, then Medical School, New
York Medical College graduated 1954. Three years in the
service and Saint Lukes Hospital as an intern resident and
then graduate school again for a masters degree in nutrition
and a masters in public health.

MR. LEFKOWITZ: In the field of nutrition
how many years have you been actively involved
in that, in the area of nutrition?

DR. CHRISTAKIS: I would say about 13 years
sir.

MR. LEFKOWITZ: Thank you very much.

Q Dr. Christakis, are you familiar with the organic food movement?

A Yes sir, I believe I am.

Q Could you give us a brief history? How long has man had an interest in organic foods?

A It really depends on your definition of organic food.

Q Could you give us your definition?

A Well, I think that man has always been interested in projecting into foods certain qualities and attributes that it may not necessarily have. Foods have always been associated with social and religious aspects of life in a very valuable way. However, this attribute of food can in a sense, be taken advantage of by individuals who mistakenly project certain attributes into food having certain medicinal values or so-called social values are those who knowingly want to use this as a way of obtaining fraudulent funds. I would immediately like to say that many of the people in the organic foods movement in desiring to associate with the ecology movement and other favorable movements in life, I think they can only bring and improve environment and who express other good social and welfare attributes to their philosophy, lack of violence

rights for others, etc. I wish to agree with that. But to a society the nutritional aspect of the question from the psycho-social nostrums, etc. have always been a way of church-life in the United States and I think though that there are public health hazards to the organic movement which I would like to briefly indicate to you if I may.

Q: Alright, would you do so?

A: Organic foods in my opinion poses a public health nutrition threat because as a way of eating it causes individuals not to avail themselves of the nutritional resources of this great country. Today, data is available to indicate that a substantial number of people in the United States particularly in the lower socio-economic groups, may not be obtaining the large number of micro-nutrients that are necessary to promote health and to prevent diseases, two separate things by the way. The Penn State Nutrition Survey has indicated this. Moreover, though advances in the nutrition field indicate rather strongly, in my view, that a proper diet pattern or nutritional way of life can help decrease the risk of our number one health problem, namely heart attacks. So you can see that we have a need for a varied diet and you can see that we have the knowledge available, the various

official organizations of food nutrition board, etc. have now promulgated use of cholesterol lowering diets for those who have high levels of cholesterol. One can see a considerable segment of the population on one nutritional way of life, this will deter them from using the nutrition knowledge that we have available. IN other words, if certain polyunsaturated, rich foods are not organic, if the fish that we need to eat, if the veal and poultry that can help in a diet pattern lower serum cholesterol, is not organic, one can easily visualize the person on an organic way of life pattern, could not avail themselves of the proper nutrients to sustain health and prevent disease. Moreover sir, I believe that the organic components of the organic food movement attributes to foods various components which, indeed, supposedly are not present but as you have eloquently shown, are present, namely pesticides. Then certain foods are given therapeutic values which are used to treat cold and diseases which should be diagnosed and treated by the medical profession.

Q Do you have any specific examples you can give us of that?

A Yes, we have -- One of our nutritionists who made a short study of this, who worked in our division, I can cite her name if you wish, did work in a food store,

health food store incognito and there reported that the individuals coming in were given advice as the other gentleman has said about losing weight or let's say aiding in the lack of constipation, etc. and other --

Q Diabetes.

A Preventing diabetes. What I'm saying is yes, perhaps a food might even have a property of prevention but if there's a sign of diabetes, it can be cancer of the rectum or colon and you can see where it can cause the individual not to seek medical aid. In effect, they are practicing a medicine which is a type of medicine which can affect negatively the health of the individual involved. Thirdly, as I indicated the continued use of organic foods which are necessarily restricted in type and amount will prevent an individual from getting food stuffs from all six groups. We prefer the six groups, namely dark green, leafy and deep yellow vegetables; enriched and whole grain bread and cereals; citrus fruits and other vitamin C-rich fruits and vegetables; milk and cheese; lean meat, poultry, fish, eggs, dried beans and peas and nuts, and salad and cooking oils for polyunsaturated fatty acids.

MR. LEFKOWITZ: Are not any of those listed under organic foods?

DR. CHRISTAKIS: They may be sir. They are very limited. Today a housewife faces seven thousand different foods. She goes to the supermarket and she has to have some substantial knowledge of how to put these items together in order to insure adequate nutrition for her family.

If you limited yourself to the health food section which I, by the way, personally think this is a set-back for the food industry in falling for this guise in order not to lose the market. I think they should stand up and be counted and not give space to the health food industry to my view because they are giving credence to this as a food movement. I would say that an individual certainly would have a restricted diet if he limited himself only to organic foods.

MR. LEFKOWITZ: Can you give us one example, to your knowledge, are there really cases where people, because of their reliance on organic foods have unconsciously or consciously avoided going to a doctor for treatment?

DR. CHRISTAKIS: Oh, yes sir.

MR. LEFKOWITZ: Was the message given to them so great that the organic food would help them relieve a disease or cure a disease.

DR. CHRISTAKIS: Absolutely.

MR. LEFKOWITZ: And in that respect they have not gone to a doctor relying exclusively on the value of these foods?

DR. CHRISTAKIS: Yes sir.

MR. LEFKOWITZ: You cite this?

DR. CHRISTAKIS: I have some person experience with a patient who has, for example taken carrot juice in the belief it would help prevent diabetes. This has come out of our folk-law, medical folk-law past and he actually believed this.

MR. LEFKOWITZ: It is an actual case. Do you know of any others?

DR. CHRISTAKIS: I know of people --

MR. LEFKOWITZ: either from hearsay or otherwise?

DR. CHRISTAKIS: Let me put it this way, I know of people who will not eat chicken which is a valuable source of protein --

MR. LEFKOWITZ: I eat chicken.

DR. CHRISTAKIS: and because they feel it's contaminated as one takes the dietary history from certain individuals, it becomes obvious that the diet pattern is restricted. The more restricted the diet pattern, the more chances for nutritional deficiency and the least chance of having a diet that promotes a health cholesterol lowering diet. I would like to add this final note if I may sir. I think we owe it to ourselves and our future generation to certainly be very careful about the food additives that go into our food supply. Indeed, as with hydrocarbons, which can't reside in the liver for long periods of time that adequate investigation should take place. I believe it is taking place before such products are put on the field or on the market place.

MR. LEFKOWITZ: Tell me, at the moment you're at Mount Sinai Hospital?

DR. CHRISTAKIS: Yes.

MR. LEFKOWITZ: What work do you do up there?

DR. CHRISTAKIS: We operate a nutrition

laboratory, a clinic, we are involved with approximately 12 other actual members towards investigating the relationship between nutrition and health in the community.

MR. LEFKOWITZ: You are involved in that?

MR. CHRISTAKIS: Personally.

MR. LEFKOWITZ: You were brought organic food as part of your study?

DR. CHRISTAKIS: Well sir, we are in fact -- We have several teaching sessions relating to organic food because we find that this is a considerable problem. Universities have organic food and health food cafeterias and here's another problem where we have supposedly enlightened institutions giving way to this kind of movement.

Q Are the views shared by some of your colleagues engaged in similar work as you are?

A I believe some are. Some may phrase it differently but I think that certainly speaks for most of my colleagues. I believe they would believe that a normal diet pattern is available in the supermarket today and that a continued use of organic food can pose a public health nutrition problem.

MR. LEFKOWITZ: In that it keeps away a normal --

DR. CHRISTAKIS: That's the important thing, yes, that it prevents -- It detracts from getting all of the six major groups. We need 40 to 50 micro-nutrients and no food is a perfect one and so as we concentrate and call them down on one specific area or food group, we necessarily must not take from the rest.

MR. LEFKOWITZ: You mentioned those six areas earlier in your testimony.

Q Does it naturally follow that an animal, for example a chicken, you used chicken a moment ago and the Attorney General is a big chicken eater, does it naturally follow that to raise a chicken away from contact with the soil is a harmful thing as far as the end result, the Attorney General eating that chicken.

A I don't believe so sir.

Q I am referring and I don't mean to belittle this kind of statement, but you see it says for example --

MR. LEFKOWITZ: What are you reading from?

MR. MINDELL: From a pamphlet Mr. White obtained in one of the health food stores.

MR. LEFKOWITZ: Now we know what you're reading.

MR. MINDELL: From our standpoint another hurtful thing is the attempt to raise creatures

away from contact with the soil. If an animal or a chicken has free range on a broad, clean, sun-washed, steam heated grass pasture, which would seem to be, after all its heritage, then the result must be a different product from today's hot house creatures. Commercial creatures rarely, if ever, get to see daylight. They're born and raised and die in completely controlled chicken factories behind gloomy gray walls. Now that paints a pretty sad picture for these chickens and they want to assume that chickens who are doomed to spend their lives in these gray walled factories are going to be worse than chickens who are allowed, as Mr. White was told, to roam free range or swing with the roosters.

DR. CHRISTAKIS: Well, I haven't met any unhappy chickens lately but I do know that nutrition science is at a point, in regard to poultry nutrients where the vitamins and minerals required for optimal growth and development of the chickens have been identified. And that commercially fed hen houses -- I happen to know of at least one quite well, are spending a very great deal of attention in assuring

that vitamins, minerals and the correct amount of protein, carbohydrates is in the feed to produce a healthy chicken.

MR. MINDELL: And the fact that we are doing this and not letting the chicken run about freely is not causing harm then to the consumer but good?

DR. CHRISTAKIS: I cannot see any harm that is coming from the way I described it nor any particular good from allowing free range.

MR. MINDELL: In other words, it's nutritionally irrelevant.

DR. CHRISTAKIS: It will deposit protein in its muscle and fat under its skin perhaps to a greater extent if allowed free.

MR. MINDELL: Would you agree with me, I know you spent much more time in the field obviously than we have, would you believe that this is the type of literature that the consumer is being bombarded with in this area.

DR. CHRISTAKIS: Yes. I think that's a sample of it sir and what it serves to do is to undermine the complete confidence in our agricultural way of life, not that we can improve what we're

doing but I'm just saying that it tends to completely undermine the nutritional adequacy and the consideration that our scientists have such as the SDA for the welfare of their fellow citizens.

MR. MINDELL: One of the sad things that I have observed, particularly from Mr. White's investigation and Mrs. Lichtblau's investigation is that those who work in health food stores, and I don't mean to castigate health food stores in general but I do want to make this point and see if you agree with me, that those that work in these stores come to work and might very well be hired off the street ten minutes before, but once they get out on that floor and they meet that consumer they speak in terms of nutrition as if they have PhD's from Columbia and Heidelberg and 16 other places. They don't speak in terms of maybe's and perhaps, they speak in terms of very, very definite affirmatives.

MR. LEFKOWITZ: As experts.

MR. MINDELL: And these people may be no more experts than my Aunt Minnie.

MR. LEFKOWITZ: Then you are.

DR. CHRISTAKIS: What they also do sir,

they have a book rack too, I think at one, they have a book section and very often this is replete with books on the effects of vitamin E in preventing heart attacks. Look here, Dr. Schultz or someone else who has done research in this field and then they will sell you some substance with vitamin E and they will profess that this prevents heart attacks.

MR. MINDELL: This is very disturbing General. You get people, nutritionists, as I say, talking in the business of nutrition as a doctor when in fact they know next to nothing.

MR. LEFKOWITZ: The thing that impresses me most is your insinuation of the fact that the continued use of organic food is preventing people from getting what you consider the proper distribution of balance of those six items of food.

DR. CHRISTAKIS: Yes sir.

MR. LEFKOWITZ: What is a professional definition for organic food? What is your definition in your profession?

DR. CHRISTAKIS: Well the definition is one that is not logical because as doctors say in my area, pointed out elsewhere in this testimony, anything with carbon compounds is organic. It comes to me food that is free from pesticides, etc. are made that way by utilizing either compost or manure.

MR. LEFKOWITZ: Pesticide is just some spray that's used to kill bugs.

DR. CHRISTAKIS: Well, pesticides can be, of course, dangerous. This is not to detract from the statement I made before about the importance of assuming that pesticides are not toxic nor stored in any organ which can later help cause in some manner some future disease. We have a responsibility to assume they will, getting all the benefits of killing the bugs and other things, and that we have a product that is as less toxic as possible and we know the long term effect of it. But, I'm confident the individuals in the SDA and other centers have this goal in mind.

MR. MINDELL: In summary then, would you say that the nutritional value of organic food is not greater than the nutritional value of comparable ordinary food.

MR. CHRISTAKIS: I would say that is true
and go a step further that utilizing it as a
nutritional way of life that individual will
end up with a much less balanced diet.

MR. MINDELL: Thank you very much.

MR. MINDELL: Dr. William Sebrell will be the next witness. Would you state for the Attorney General your professional qualifications?

DR. SEBRELL: I hold a Doctor of Medicine Degree from the University of Virginia and I spent about thirty years in the United States Public Health Service where I was Assistant Surgeon General for five years and Director of the National Institute of Health. During my career in the Public Health Service it was devoted almost exclusively to studies of nutrition and the relations of malnutrition to health in the United States and in trying to combat these conditions. I then became Professor of Human Nutrition at Columbia University and was Director of the Institute of Human Nutrition at the College of Physicians and Surgeons at Columbia University when I again devoted my attention, this time, largely to education and research in human nutrition. I am now a lecturer of Weight Watchers International.

THE ATTORNEY GENERAL: In this area of nutrition, you have been involved with it close to thirty years, thirty-five years?

DR. SEBRELL: Let's say nearer to forty.

BY MR. MINDELL:

Q Could you give us your opinion of the nutritional value of organic foods as compared to ordinary foods?

A Well, I would like to state in a few words that I know of no acceptable or medical evidence of any kind that organic foods have any nutritional superiority to ordinary foods. Now, on the other hand, I don't know of any damage, direct damage, that organic foods can do and I feel personally that anybody who wants to waste their money, you might say, by paying a higher price for these foods, should be free to do so. However, we should recognize that and I feel equally strong that these foods should not be sold under misrepresentation leaving the purchaser to think that he's going to get some nutritional or health benefit that really is not there.

Q Has it been your experience as it has been ours and Dr. Christakis' that such representations are made on a wide level to the public?

A This has been presented here this morning and there is a sense of misrepresentation in this way; that although it may be true that the food is grown without the use of any pesticides, and this may be clearly stated as from the evidence that has been presented here this morning, that some of them do have some pesticides present, perhaps by accidental contamination, but nevertheless,

the impression is created and the purchaser has in mind that there is some benefit from that, that it is actually free from pesticides, when they may not claim that it's free of pesticides but only that it's grown without the use of pesticides.

Q May I ask you this, assuming that in our survey, in our laboratory survey, we found that the products did not in fact contain the pesticide residue that they did--would the consumer be advised to buy such products if they would be identified as "pesticide free", rather than buy ordinary products which may in fact have a pesticide residue? Is there any harm in buying foods with pesticide residue?

A No, in this sense, we both, this State and the Federal government, have very strict regulations with tolerance set for pesticides. These are very safe tolerances and as long as the foods are sold in compliance with the law, there is no danger to taking them. Now, there is an indirect danger in using these organic foods, as I think Dr. Christakis pointed out, but I would like to emphasize it in another way. In many ways, many of our processed foods are much superior from a nutritional and health viewpoint to the organic foods. One example is, it's not only hazardous to feed a baby raw milk because of the ecological hazard but we add Vitamin D to our milk

and in the latitude of New York, a baby who does not get Vitamin D, runs a very serious risk of contracting rickets and rickets has largely disappeared from our country because of our use of Vitamin D, fortified milk, and here is a milk to which we add our vitamin that is a very important health measure to small infants in this country. There are many instances in which our processed foods need to be used in preference to the organic foods.

Q So that in summary, you believe that if the consumer wants to buy organic foods, that's okay, but he should know that he is not getting a nutritional, superior product when he buys those foods and in fact he may be at a disadvantage as such, as in the case you gave with giving an infant milk lacking Vitamin D?

A Exactly. He needs to know about good nutrition and he shouldn't be misled thinking that eating these kinds of foods is going to give him perfect health and perfect nutrition and also the possible implication that these are of use in weight reduction or in the prevention of diabetes. He is being completely misled. There is no difference from any other foods in this regard.

Q Would you be in favor of a labeling requirement, a State labeling requirement, requiring that organic foods have representations on labels to the effect that organic foods are not in any way nutritionally superior to the

ordinary foods?

A It would be a wise thing to do, to make that very clear, that they are not superior in any way to ordinary foods.

Q The only thing again that the consumer is getting when he is buying organic foods is less money in his pocket when he comes out of the store?

A From a nutritional viewpoint. That's all I can see.

MR. MINDELL: Thank you very much.

THE ATTORNEY GENERAL: Doctor, you share the view of Dr. Christakis, in which he said that the continued use of organic foods might, in the long run, prevent people from getting what he described as sort of balanced nutritional food on a daily basis?

DR. SEBRELL: That is correct, sir.

THE ATTORNEY GENERAL: You make a very strong point that there is no acceptable medical evidence now that these organic foods have any superior nutritional value than ordinary foods?

DR. SEBRELL: That is true, sir.

THE ATTORNEY GENERAL: Your big objection is that these people ought to be told that

there shouldn't be any misrepresentations made to the consumer?

DR. SEBRELL: I don't want to prevent them from purchasing this kind of food if they want to. They musn't be misled in thinking they are getting some benefits that are not there.

THE ATTORNEY GENERAL: Your opinion is well taken and it is crystal clear. Thank you.

MR. MINDELL: I would like to call Dr. John Browe. Dr. Browe, would you give us your full name and are you not the director of the Bureau of Nutrition for the Department of Health for the State of New York?

DR. BOWE: Yes, since 1950.

MR. MINDELL: And could you give us a brief capsule of your professional qualifications in this?

DR. BOWE: My medical degree was from the University of Vermont. I have a Masters Degree in Public Health from Columbia University here in New York. I have been certified by the American Board of Nutrition as a specialist in Clinical Nutrition; by the American Board of Preventive Medicine, qualified in public health,

and for a great number of years I have been a Special Consultant to the Public Health Service for nutrition having participated in surveys in Venezuela and Chile as well as in a ten state area.

MR. MINDELL: And I again would like to publicly acknowledge to Attorney General Lefkowitz that Dr. Browe has cooperated with our office in numerous times in the past, in court actions that we have taken against sellers of worthless weight reduction products.

THE ATTORNEY GENERAL: I extend my personal thanks. Without your help we couldn't get by in court. My thanks to the other doctors that did likewise work.

MR. MINDELL: Do you have a prepared statement that you would like to read? I ask you if you would read it at this time.

(Note: Whereupon, at this time, Dr. Browe's prepared statement was incorporated as part of the record.)

DR. BROWE: Thank you. I will begin with a quote.

"STATEMENT BY JOHN H. BROWE, M.D.
ORGANIC FOODS

'A vast dissatisfaction, prompted by apprehension about the quality of our manipulated foods, has surfaced in this country as a flourishing business in "organic" foods.' The food fearful turn to so-called "natural" foods in a kind of denial of modern science and technology. One of their complaints is that food processing removes known and unknown essential nutrients, with the conclusion that natural, whole foods are healthier"

DR. BROWE: Now, this whole paper is built by this specific example.

"Deutsch writes: 'A few years ago, one small group issued a statement on bread which included these sentences, typical of a certain point of view: The enriched bread fed to the American public is a national scandal. First of all, the wheat grown in poor soil and fertilized with water-soluble commercial fertilizer is of low protein content....The modern flour mill removes the precious vitamins and minerals. This is then bleached with.... chlorine dioxide (which is a poison); and to this lifeless mass, a few dead synthetic chemicals (improperly called vitamins) and inorganic iron are added. We not only think these foodstuffs are worthless; we believe that many of them are positively harmful....' "

"Between 1947 and 1951, two highly respected English scientists, R.A. McCance and E.M. Widdowson, carried out some well designed experiments in German and England concerning the nutritive value of white and brown bread. Their results surprised them very much at the time because, in spite of everything they had been led to believe over the previous thirty years, 'white bread turned out to be as good as brown, and all kinds of wheaten bread to have a nutritional value far in excess of anything we had been led to suppose.' But the real problem for them was why the results were so unexpected. In seeking the answer they found themselves involved in 'a tangled skein of social and economic history with threads that reached back to the very beginning of things.'

DR. BROWE: I think I will occasionally skip a paragraph to get through with this a little faster.

"In ancient Greece and Rome there were at least four grades of flour. The finest kind was expensive, made only from the best wheat, and the final product was only about 67% of the original purchase."

DR. BROWE: In other words, from 100 lbs. of wheat you only got 67 lbs. of flour.

"Then came 'seconds', then a wholemeal product, and finally a very coarse variety, sometimes just a collection of branny residues mixed, perhaps, with brans.

"As time went on, the drift to the towns was a worry to the Romans, and at times to the Athenians; and in the eyes of some, white bread stood for city life and sophistication. Wholemeal bread was the countryman's fare. It made a man of you; gave you health and strength. It became a symbol to some people of the good old days, the simple life of long ago. (In Plato's buildup of the ideal state there came a time when he pictured men as living into healthy old age on wholemeal bread ground from a local wheat. Socrates countered that this meant the whole population would be living on pig-food.) There was no experimental evidence or vital statistics to show that any of this was true. The medical opinion of the Hippocratic school was that 'white bread is more nutritious; it makes less feces'. Some six hundred years later Galen stated his opinion that the greater the bulk of stools made by a given amount of bread the less nutritious that bread was likely to be."

DR. BROWE: We skip now to the early 1800's in England.

"By the early 1800's England was no longer a collection of rural communities but a country of organized industry based on coal. The mills became a mass of machinery and the miller had taken over the task of separating the bran. The acreage in wheat increased, resulting in a surplus for other parts of England and for export abroad. There was no new alignment in men's attitude towards white and brown bread.

"By 1860 the sale of offals and residues had become profitable enough to reduce the price of white flour below that of brown. White bread became the cheapest food the poor could buy. Soon after, the roller mill and silk bolting sieves made white flour look whiter still, improved its keeping qualities and the value of the offals. The millers and the public were finally at one, and were strongly supported by the animal husbandmen, and these three strong pressure groups came together in favor of white flour.

"While all this was going on the old idea of wholemeal bread as a symbol of all that was 'natural', 'vital' and good spread widely among certain of the intelligentsia under the teachings of men like Sylvester Graham (wholemeal bread) and Allinson (stone-ground flour). Graham considered that in separating the bran from the endosperm man was tearing asunder what God had joined together in the grain. A Bread and Food Reform League was established and introduced 'standard bread' in 1909, with its valuable properties attributed, not so much to the bran it contained, as to the vital and mysterious germ.

"Chemical analysis in the early part of the 19th century had shown that, although wholemeal flour contained more indigestible cellulose, it also contained more protein, fat, and minerals than white flour, and chemists like Liebig considered that weight for weight it was more nutritious. The 'balance' experiments which were carried out later by the more biologically minded scientists all showed that the indigestible nature of the branny parts so increased the losses of nutrients in the stools that weight for weight the chemical advantages were more than counterbalanced by the physiological drawbacks. The discoveries of this relatively neutral group of scientists were made use of by the protagonists both of white and brown.

"With the submarine campaign of World War I reducing the normal quantities of wheat, the King issued a proclamation similar to that issued by George III in 1800 to economize bread. The workers didn't like to have their beer watered down so that some of the barley grown for brewing it could be put into bread. Parliament ordered the millers to raise the extraction rate of wheat to 90%, and to incorporate 20% of other cereals, or potato flour, in the flour sold for breadmaking."

DR. BROWE: The next paragraph is just a brief description of the disadvantages of this particular flour.

"The groups of people traditionally in favor of wholemeal bread welcomed the higher extraction rate. 'We had sustained a bread which passed muster with our chief scientific critics' (Bathurst 1917). The evidence about vitamins now pointed to the fact that there was something nutritionally very important in the outer layers of the wheat berry.

"Scientific results rapidly accumulated to show that, under chosen conditions, wholemeal flour was a better food than white for pigeons and for growing rats and mice. Many people assumed without question that these results would also apply to British and American men and women living on their customary diets. They were supported in this by the experience of British recruiting boards during the war which found that those who had been reared for at least two generations on roller-milled white flour were not as fit as many had supposed.

"So, food reformers and nature worshippers were joined by all those people who were interested in improving national health, including scientists of the highest caliber. The enthusiasm of the nonscientific members of the groups tended inevitably to modify the outlook and to blunt the keen critical judgement of even the best scientists in them. Relatively untrained scientists began to take part in these 'bread' experiments, which always seemed to give a result in favor of brown bread. No one took much notice, nor did many have the courage to say, that many of these experiments were poorly designed and executed. Thus, evidence built up that brown bread was almost a necessary adjunct to a diet.

"The millers were impressed by the evidence against them. They were unable to convince anyone outside the trade that white bread was as good as brown as an ingredient of British and American diets. The millers' offer to fortify white flour with thiamine completely disarmed some of their scientific opponents, but it stiffened the opposition of those for whom wholemeal bread had a symbolic appeal.

"It was not until 1940 that the Ministry of Food proposed to fortify white flour with thiamine. The Medical Research Council Accessory Food Factors Committee

(1940) recommended 'the percentage extracted should be at least up to 85%'. The members of the Food Education Society (the direct descendant of the Bread and Food Reform League) were at one with the scientists in wishing to see a return to long extraction flour--if possible, however, ground between stones.

"In March 1942, the shipping position forced the government to raise the extraction rate to 85%, and during the war the national health improved.

"At the end of 1944 the extraction rate was reduced to 80% and this gave rise to further controversy. The millers and bakers pressed for a further reduction and offered to make good the nutritional shortcomings by adding minerals and vitamins. The groups in favor of high extraction argued that since no one knew all the good things that were lost in the milling of white flour, no one could guarantee to put them back. In 1945, Lord Horder, later the king's personal physician, stated 'There is another and more general effect of this national wheatmeal bread upon the country as a whole, and that is that the country is less constipated.'

"The issue was no longer whether high extraction flour was better than white--nobody questioned that--but whether white flour enriched with B vitamins and iron was as good as the natural 80% or 85% extraction flour."

DR. BROWE: Now we come to this important study. I have taken 174 pages and put it down to about 7. I don't think I have much further.

THE ATTORNEY GENERAL: You convinced me more than ever that we needed consumer protection a long time ago.

"A study was begun in 1946 in Wuppertal and Duisberg, Germany on 250 children between the ages of 5 and 15 who had been hungry and undernourished for some time. The object was to determine whether the proteins, iron, B vitamins, and possible unknown substances supplied by five breads met the requirements of the children equally well. The nutritional values were compared among 85% wheaten meal, a white flour enriched with B vitamins and iron to the levels found

in such meal, unenriched 70% extraction flour, wholemeal flour and a 70% flour enriched to wholemeal levels.

"The breads were fed in amounts about equal to 75% of total calories. Most of the remaining calories came from potatoes and vegetables and about 3 ounces of milk. The diets were supplemented with fat-soluble vitamins, ascorbic acid and calcium.

"The children grew and improved equally well on all of the breads. They did extraordinarily well on all of the diets.

"There was little scientific evidence in favor of wholemeal flour before the first World War, but by the end of it it was clear that there were unknown substances in wholemeal flour that were nutritionally desirable. But the beliefs in the value of wholemeal flour for man were based on evidence that was not scientifically sound, because of the use of animals and diets which had no real counterpart in human nutrition."

DR. BROWE: I should perhaps mention that this 75% of the calories from bread was what these poor children were eating. This was essentially their ordinary diet.

"The experiments of McCance and Widdowson described very briefly above have, in their words, 'indicated that unenriched white flour is likely to be as valuable a part of the diets currently used in Europe and America as an enriched white flour, an 85 percent or a 100 percent wheaten meal.' Since these experimental diets contained a sufficiency of B vitamins, the enrichment ingredients in the 70% bread provided no additional benefit.

"Of course, this study and its results have been attacked on the one hand and neglected on the other. But their importance to this hearing is that they illustrate the need for scientific detachment from subjective beliefs, from the anxieties of promoting positive health, and from controversies with commercial interests in order to develop evidence on which a rational judgement of nutritional value can be based.

"With this example I submit that the body of scientific evidence does not generally support the nutritional superiority of so-called natural or organic foods for man and that the burden for developing scientific evidence of this superiority rests upon the makers of such claims. Until they succeed in this, the purveyors of natural or organic foods should not make claims for the nutritional superiority of their products."

DR. BROWE: I have gone beyond my limit.

I think I would like to add that I had a talk with Dr. Sebrell just before this meeting and I told him the substance of this paper. He was invited by Dr. Lachance to England to examine these kids because he couldn't believe his eyes. So you have substantiation for that.

THE ATTORNEY GENERAL: You heard the conclusions that were given by your colleagues. Do you generally agree with them?

DR. BROWE: Yes, sir.

MR. MINDELL: Thank you very much.

THE ATTORNEY GENERAL: Thank you.

MR. MINDELL: Dr. Paul Lachance. Dr. Lachance, could you give us your professional qualifications?

DR. LACHANCE: I received my Bachelors Degree from St. Michael's College in Vermont and my Doctorate in Nutrition and Physiology from the University of Ottawa, Canada. I spent time in the Air Force as a research biologist in aerospace. I became the flight-ground coordinator of the manned spacecraft center of NASA and was responsible for the development and nutritional aspect of all the space foods that now have gone up and I have since become Professor of Nutritional Physiology in the Department of Food Sciences at Rutgers University.

MR. MINDELL: Do you have a prepared statement that you wish to read? Would you read it now?

DR. LACHANCE: "Food is any substance that is eaten or otherwise taken into the body (Usually by mouth) to sustain life, provide energy, promote growth etc.

"It should be evident from such a definition, that if food, in particular food combinations, are eaten and life is

sustained one of the benefits of food should be to assure health, that is, a general condition of soundness and vigor of body and mind.

"No single food in nature (except mother's milk for a limited period) can sustain life and assure health. In fact a food physiologically tolerable and efficacious for one human may be physiologically intolerable to another human. The label "health" food is therefore incongruous because a "health" food may not necessarily be healthful. Why is this so?

"First. The substance of food is that array of chemicals naturally therein which (1) (a) are known to be essential to life processes and are called nutrients; (b) are known to impart the psychophysiological sensations of odor and taste and are called flavors; (c) are known to impart the physiological sensation of perceiving color; (d) are known to impart the physiopsychological sensation of perceiving texture; (2) are none of the above but are indentifiable chemicals with known psychological and/or physiological

effects; and also (3) analytically ill defined chemicals and therefore which are unknown or little understood relevant to psychological and/or physiological effects.

"Secondly, this admixture of known and unknown chemicals are not only affected by environmental conditions during maturation and handling (be it harvesting or slaughter) but since most food (all food containing protein) is living tissue at one time or another, chemical reactions and interactions have and/or continue to occur. In terms of health value, food chemicals may therefore have a good, bad or equivocal effect on the consumer. It should also stand to reason that when the chemicals inherent in food are consumed, they can fail to admix or admix to varying degrees with the chemicals involved in digestion, absorption and metabolism, and/or effect the physiology of digestion or the physiology of other bodily systems (including the nervous system). Needless to say, if the consumer has chemical deficiencies (congenital or otherwise), physiological idiosyncrasies, or disease, the resultant

health value of food chemicals can be good, bad or equivocal.

"Agriculture can be defined as the science and art of promoting or improving the growth of plant or animal materials by labor and attention. This effort when directed to the production of food can be dependent on the natural environment or can utilize varying degrees of scientific control of the environment. It is possible, therefore, to cultivate the ground for food production with or without the use of extraneous but pertinent chemicals and/or to cultivate food in nutrient chemical solutions with or without inert supporting materials analogous to soil.

"With harvesting, begins the process of converting an agricultural commodity, such as food, into marketable form. If the process involves some special systematic action or series of special systematic actions, the product can be said to have been processed.

"A 'natural' food is one which is not artificial, being such by nature that it would

grow spontaneously without being tended by man. It is a 'wild' food or as labelled by some, an 'earth' food. Therefore, food that is tended by labor and attention (agriculture) cannot be natural. Food can either be cultivated in the presence or absence of soil (conventional agriculture as contrasted to hydroponic agriculture) and can either be cultivated in the presence or absence of extraneous manufactured chemicals (inorganic fertilizers and/or organic herbicides, pesticides, hormones, antibiotics etc.). Therefore, food that is 'grown without pesticides and artificial (sic) fertilizers in soil whose humus content is increased by the additions of organic matter and whose mineral content is increased by applications of natural (sic) mineral fertilizers' meaning in the absence of man applied manufactured inorganic and/or organic chemicals cannot clearly be defined as 'organic'.

"The term 'organic' has also been applied to a type of food processing as well as a type of food production. It is proposed that 'organically processed food is food that is

grown organically and which, in its processing has not been treated with preservatives, hormones, antibiotics, waxes or other artificial substances." This expression 'organically processed' has to be distinguished from the so called 'natural' foods which are not necessarily 'organically grown' but are as unrefined as possible and free from those additives associated with specific processing goals (preservation, enrichment, organoleptic and processing advantages).

"It should be evident that what is being marketed under these terms 'organically grown' 'organically processed' and 'natural' are foods either grown and/or processed in a manner unaccompanied by man applied manufactured chemicals. One can argue that a single word would be preferable to define such agricultural practices, and that the term 'organic' has common usage. But one wonders whether a new term defined to mean unaccompanied by man applied manufactured chemicals would not be preferable. An important point is that such food is self-determined, that is, 'on its own' relevant

to maturation and its subsequent keeping qualities. This does not mean that it is free of naturally occurring chemicals which may be good, bad or equivocal, only that it is relatively free of manufactured chemicals which may be good, bad or equivocal. Further, one has to acknowledge the general attitude of many consumers desirous of non polluting environments, including that affecting food. Such consumers can be viewed as being ecology minded and desirous of food, the quality of which is determined by its own ecology during growth and/or processing.

"Since there are no legal definitions for food grown and/or processed without the addition of manufactured chemicals, you have the opportunity to legalize existing terms and thereby add a new dimension in the confusion of definitions, or of adopting and legalizing new terms which are in agreement with the facts and less apt to be misleading relevant to health benefits. I would propose that Ecology Foods rather than Health Foods would be an appropriate alternative. Further, foods grown by a third party claiming to be and certified

to be relatively free (zero tolerance is an impossible concept) of manufactured chemicals would be known as ecologically grown foods, whereas foods not grown under such conditions but processed without manufactured chemicals would be considered ecologically processed. A food grown and processed without manufactured chemicals would be considered an ecology food.

"In any event, the State of New York must consider not only the denotation of the various terms being used and/or proposed, but more importantly in my opinion, must consider the connotations such terms have on consumer food attitudes and practices, because food is the input to nutrition with a definite relationship to health." Thank you.

MR. MINDELL: Doctor, research seems to indicate, and of course I am only relying on what I have read, that elements essential to plant growth generally enter the plant in an inorganic form and if an element is originally present in the soil in an organic form it is broken down into an inorganic form. Are you familiar with such research?

DR. LACHANCE: I would have to base

myself on my own, you know, graduate limit degree in plant physiology and say that that's generally true. In other words, the purpose of photosynthesis or growing of plants is to take inorganic things from the atmosphere and from the soil and convert it into organic matter which we need to live on.

MR. MINDELL: If we assume that, can we then make the assertion that the use of organic fertilizers does not have a unique effect on nutrition?

DR. LACHANCE: No, you can't say that because manure and other things tend to build up the soil in such a way that they hold the plants better or give it better humus or do something else which I don't think we can detect. We cannot say that, I don't think, in all fairness.

MR. MINDELL: But you agree with your fellow colleagues then that there is no real nutritional advantage in organic foods over and above their comparable ordinary foods?

DR. LACHANCE: That's a difficult statement and I listened to the others very

carefully and I am not --

THE ATTORNEY GENERAL: They used the words, "No nutritional superiority". Would that help you out?

DR. LACHANCE: I would accept that statement if you would limit that to the definition of foods which I have given which refer to the words "nutrients", not to those of other chemicals. In other words, they may in fact be a factor in terms of other chemicals that you take into your body that you may not be able to tolerate. You may be allergic. These are handled under medical conditions. However, in other words, we are not concerned about its nutrient value.

THE ATTORNEY GENERAL: In a general way, per se, does it have any higher nutritional superiority to any other food?

DR. LACHANCE: In terms of its actual amount of Vitamin C or something else, I don't -- some nutrients, in particular, it may and it may not. The variation is fantastic among products. It can be in certain fruits and vegetables as much as a hundred percent. And certainly if you tend to carry

it over one way or another. I'll give you an example. Take an apple that has one side harvesting in the sun and the other side has not. Obviously, you can't grow all apples by rotating them around to make sure they all get the sun. This is a fact. Where as I say, in my class, if the students are going to go around making sure which side of the apple they are going to eat, that's their problem, not mine.

MR. MINDELL: Well, the food may taste better, the organic foods may have better texture and color. Those are the factors that would be worthwhile, aren't they?

DR. LACHANCE: That may be true. I think you have samples on the table there that range from some that are a lot better than we see in the regular market place.

THE ATTORNEY GENERAL: Generally speaking, do you agree with your predecessors?

DR. LACHANCE: Yes, generally speaking, as a nutritionist, I would. I am not out -- I think I readily agree with what Dr. Sebrell has said in a sense. I have no objection to people who believe in this and having the

opportunity to buy it and if they want to pay more for it, I think that's fine and dandy.

THE ATTORNEY GENERAL: They shouldn't be sold under any misrepresentation? Do you feel the same way?

DR. LACHANCE: That's right.

THE ATTORNEY GENERAL: And he went along with the fact that there ought to be label requirements. He recommended that it should probably say that organic food was not nutritionally superior to ordinary foods. That was one of his recommendations.

DR. LACHANCE: That might be a point I would have to think about for a while. I mean in my definition that there are physical effects, I would like to make that obvious. There may be an occasion; this would depend.

THE ATTORNEY GENERAL: Thank you.

MR. MINDELL: Thank you very much.

The next witness will be Dr. Mark Schwartz. Dr. Schwartz, first tell us your affiliations and your qualifications.

DR. SCHWARTZ: My name is Mark Schwartz and I am a director of research for Rodale Press and I have a Doctor Degree in Food and Nutrition and a Masters and Bachelors Degree in Agriculture.

MR. MINDELL: Tell us something about Rodale?

DR. SCHWARTZ: Rodale Press is a publishing company located in Emmaus, Pennsylvania. It is a forum for organic foods, health foods, nutritional foods, writing and publishing articles concerning health foods.

MR. MINDELL: What are the names of the magazines that are published?

DR. SCHWARTZ: Prevention Magazine, Organic Farming, and Fitness For Health.

MR. MINDELL: Does it generally take the position in these publications that organic foods are nutritionally superior to ordinary foods?

DR. SCHWARTZ: I think to make that statement certainly upon the basis of what has been said before, I think from an ecological point of view, that must

be considered. I believe the types of foods that we have talked about here, there is a misconception of what Rodale Press particularly has talked about when you talk about organic foods.

MR. MINDELL: Can you define what you mean then?

THE ATTORNEY GENERAL: Tell us what Rodale Press means.

DR. SCHWARTZ: I don't think organic foods are any different from the foods that we ordinarily eat. The thing we are talking about is the method of producing these foods.

THE ATTORNEY GENERAL: Growth?

DR. SCHWARTZ: Growing these foods.

THE ATTORNEY GENERAL: That's what you're talking about?

DR. SCHWARTZ: That is without the use of chemical fertilizers and pesticides.

MR. MINDELL: What are the benefits you see in organic food?

DR. SCHWARTZ: Well, there has certainly been enough in the past year about DDT and DCB and the effect on the

environment and the effect on people as well as sodium nitrate and DES in organic foods produced without these chemicals.

THE ATTORNEY GENERAL: You are going on the assumption, per se, that there are no chemicals in organic foods?

DR. SCHWARTZ: Well, I should say that we have -- in order to better define this organically grown that we have put forth, we have a laboratory in California that is part of the certification programs which Mr. Rodale will explain ; looking at foods from the standpoint of pesticide residue we have come to the conclusion that it is almost impossible to come up with foods that are not, do not, contain pesticides.

MR. MINDELL: Would that be due to fallout?

DR. SCHWARTZ: Fallout, I think, has been previously treated. We have described a method of growing these products without the use of pesticides. We are attempting to get a base line study so that at some time we can come up and say the foods

contain less than -- naming the particular pesticides.

THE ATTORNEY GENERAL: No pesticides used there at all in the food?

DR. SCHWARTZ: No. The foods that we are certifying have no pesticides used.

THE ATTORNEY GENERAL: No pesticides, no spraying of any substance?

DR. SCHWARTZ: No spraying, no.

MR. MINDELL: However, if I may ask you this, by making the assertion that it is impossible to grow pesticide residue, free food, because of fallout or prior treatment of the earth, doesn't that make the main opinion out of the organic food segment of the industry which relies on the representation on their labeling and so on; and I am not pointing to any particular company but in general, that they are produced pesticide free?

DR. SCHWARTZ: I haven't taken a look at labels.

THE ATTORNEY GENERAL: Assuming the label reads, "Pesticide Free". That would mean --

DR. SCHWARTZ: The understanding

would be in the growing. I think that production, carrying that type of labeling, should describe the way the product has been produced.

THE ATTORNEY GENERAL: You are saying without the spray there could be pesticides from fallout and other wise?

DR. SCHWARTZ: That's right.

THE ATTORNEY GENERAL: When a person reads the label, "Free of Pesticides", they have the assumption that it's free from any source as a layman reading the sign which says, "Free of Pesticides", has the right to assume that neither the pesticide substance of a spray nor the fallout as you described is in that food?

DR. SCHWARTZ: Right. I think the customer in that case should request the kind of data that you have up here.

MR. MINDELL: Wouldn't it be very, very difficult and an impossible thing to have any kind of effective certification program? After all, you're dealing with continuously growing crops and batches of foods and foods being moved in commerce

until it gets to the store where it's being sold. Isn't the certification almost impossible to give?

DR. SCHWARTZ: The certification that we have is on the growing of the crops and in that case we don't feel it would be difficult to certify it at that point. In other words, it has been certified as being organically grown and that is the term that we are using in this case, meaning without pesticides.

THE ATTORNEY GENERAL: That certifies it to whom your client is, to whom you're dealing with?

DR. SCHWARTZ: This would be for anybody. There are really a number of --

THE ATTORNEY GENERAL: Who do you certify to right now as part of your regular business? Who do you give these certifications to, wholesalers?

DR. SCHWARTZ: No, we are certifying growers.

THE ATTORNEY GENERAL: Who do you pass your certification onto, to the

person who he eventually sells it to,
a retailer?

DR. SCHWARTZ: I believe that's
the channel. It goes to a distributor
that says, "This thing has been certified."

THE ATTORNEY GENERAL: You don't
know, in terms, what a distributor does?

DR. SCHWARTZ: No.

THE ATTORNEY GENERAL: They don't use
your certification?

DR. SCHWARTZ: No, the certification
is just to the grower.

THE ATTORNEY GENERAL: So the person
walking into the store doesn't have the
benefit of your certification and from
what you have said about no pesticides
in the growing, you have made it very
clear that the label that appears on the
food which is eventually brought into the
store, may be one that is put on by the
distributor, "Pesticide Free", is that
right?

DR. SCHWARTZ: Right.

THE ATTORNEY GENERAL: In a general
way, that means pesticide free from any

source, growing or from spraying fallout?

DR. SCHWARTZ: Well, in California what we're actually doing --

THE ATTORNEY GENERAL: You can't answer my last question? If you don't know, say so.

DR. SCHWARTZ: No, I don't know how it's labeled. All I'm saying is that --

THE ATTORNEY GENERAL: My big concern is for the public. They don't know anything about your background. They don't know what they buy in the store, what labels appear, what representations are made, what signs are made and what's said to them. They buy on the faith of these representations; otherwise they know nothing about the background of your company or any other company.

DR. SCHWARTZ: What is being done is that the certifying farmers -- the names of the farmers raising this crop plus the seal that he has should be on the products and in that way I don't know how we can better assure that the product is represented as such.

MR. MINDELL: What steps would you think should be taken in order to insure that the public is not being deceived when they go in and buy organic foods as to representations regarding prevention of diseases and cure of diseases or nutritional superiority and the other things that we have heard today? What would you like to see?

DR. SCHWARTZ: I think there certainly should be some substantiation of these claims. I don't know really in what form that takes.

MR. MINDELL: Would you have objection to labeling requirements that organic foods are not, per se, nutritionally superior?

DR. SCHWARTZ: I certainly don't think it should say that. I don't know whether you can really make that statement. As Dr. Lachance said, that's very difficult to just say that it's conceivable that fresh produce locally grown and locally consumed would be of better nutritional value or high nutritional value

then a product coming in from halfway across the country. So that would be very difficult to say. What I'd like to do is just -- and I'm sure you're aware of this, is read a statement made by the legal counsel of the State of New York, Department of Agriculture and Markets.

"With respect to the use of the term 'organic', I do not believe there is any reason why we should hesitate to take action against any misleading advertising or other misrepresentations and Markets Law, section 202A provides that an advertisement concerning a food or food product shall not be false or misleading in any particular way. It is not necessary to establish any official definition of the term 'organic' in order to invoke this section. If the term in its ordinary and usual sense is being misused, we can proceed against the violator. The term 'organic' is commonly understood today to refer to the production of food without the use

of any artificial or synthetic
fertilizer."

THE ATTORNEY GENERAL: Is your
company a profit making corporation?

DR. SCHWARTZ: It is not a public --
no, we have a certification program.
That is strictly an expense item.

THE ATTORNEY GENERAL: What's the
part that's profit making, what portion?

DR. SCHWARTZ: It is strictly the
magazine.

THE ATTORNEY GENERAL: Thank you
very much.

MR. MINDELL: Thank you.

EXAMINATION BY MR. MINDELL:

Q Professor, would you state your qualifications to us briefly?

A I am Ruth Klippstein. I am Associate Professor of Human Nutrition and Food at Cornell University. I have a Master's degree from Michigan State University. I work as a nutritional biochemist at Oregon State University and for the last eleven years have been on the faculty at Cornell University. I work usually with the off-campus homemakers and persons who really get into the food supply -- buy the foods.

Q Now, could you direct your testimony to your experiences with those individuals, the people who are the homemakers, and what their attitudes are toward organic foods and how those attitudes have arisen and whether or not those people generally, the public that is, in your opinion, whether they are being given accurate or inaccurate information about organic foods?

A That's my intention to do so, sir.

Q All right.

A I think it's evident that there is a brand new day in the world, what we might call a new style of eating. Call it counterculture eating; call it organic food; call

it a food kick for Mr. and Mrs. America. But we do have some very definite changes in the food that people are eating and there are some indications that this is a fad, that it will pass. I think the indication of the much lesser use of the microbiotic diet in California is a very good example of this. But, I also think that there are very good reasons to believe that some of these are here to stay and there are three changes I want to mention just briefly. The first is perhaps by now a cliché, but it takes us back to the basics movement. We've been hearing from the food manufacturer that we all want convenience foods and yet, at the same time, there is a proliferation of interest in cooking, there is a proliferation in cookbooks, of doing it yourself, of gardening and gardening organically. There is an increase in the interest of nutrition and for this, those of us in the nutrition field are duly thankful to some people like Rodale, to some people who write unusual books and to the federal government for its interest in the nutrition of the people in the White House conference. But suddenly, nutrition is a magic word and it's supposed to have magic properties. Advertising shows it, books are being proliferated and students are flocking to courses for the first time ever on the college campus and frankly, we welcome this because it gives us the power

and a lot of the clout to get the answers to some of the nutritional information that is not known. Few people know how little is actually known in the field of nutrition, especially about the interrelationships of the nutrients. We are just now getting some data about what people believe and where they get their information and I think it has a bearing on this particular hearing.

One of the most recent well-done studies of 2,500 homemakers was done to compare their knowledge of nutrition and then their practice. Where do they get their information? Well, 41% said that they got their information in high school. These were not all young high school graduates. We might add 25% got it from the mass media and 25% got it from word of mouth. You could say how good was their information? In other words, what sort of information did they have in the line of nutrition? Three per cent got all the answers correct. Ninety per cent got two-thirds of all the answers correct. Now, two-thirds is not too bad one would say, unless one looks at the types of questions answered correctly and incorrectly. Now, handling and storage were answered correctly but questions which related to what is needed for a good diet were not answered correctly. Now, the questions they got right were the questions on handling,

purchasing and storage of food. I think it says a great deal to us about the basic information, the accuracy of the basic information of the American consumer.

Another thing we found was that people really questioned who could really be believed in the field of nutrition. I had a very interesting executive ask me the other day, "Who has credibility in your field?". He looked me straight in the eye and said, "You as a college professor, don't many people think you are in the hire of big business?" And he went down the list of all the people who in the past have been good sources of nutrition information and when he got down to it, he finally said, "Frankly, I would like a good, reasonable source of information that I could trust and who has credibility with the consumer." And I suppose all of us in the field of nutrition education would like the same thing. One of my roles at the present time is Chairman of the New York State Nutrition Council, and the 85 members of that Council who are all professional nutritionists representing all of the official agencies in the State very much wish to be seen as people who can be looked to for good reliable information. I have been giving talks in the field of organic and natural foods not trying to condemn them or to praise them but simply trying to get people to know what

the situation is.

In the last year, I have given talks to over 3,000 people and I think probably the basic word that can be used to represent the reception to these talks and to the set of slides which I have used in the talks is the word "curiosity". Many people are afraid to go in natural food stores, don't want to be considered kooks and, therefore, they are hesitant to answer. But my means of slides, I think they can draw their own conclusions. Incidentally, in case you want to know my own private opinion, the title of the set of slides probably gives it very well. It is called "Natural Foods - Good - Bad - Different."

Just what does Mrs. America want from her food supply and is she getting it? Put in very simple terms, the women have all told me that they want enough of the right kinds of food in the right place whenever they want it and at reasonable cost.

Now you will notice that in that list is not something that we are talking about here today. They really and truly seldom say anything about the safety or the cleanliness of their food supply. Most consumers, a majority of consumers, feel that the legal system regulating our food supply is working fairly well, that their food is on the whole wholesome

and certainly with good selection and they can be well fed. At least that was true until about the last five months. During the last five months I have seen an increase in people with seeds of doubt and people wondering if they are being currently poorly nourished because of such things as cyclomates, the nitrate incidents and DES.

We do not have a sophisticated nutritional consumer and hereby lies the problem. They asked me if they should shop in health food stores, if these foods are better for them and, Mr. Chairman, I do say they are not better for them. They wonder if there may be something to the claims of the people they see on television and the mass media. In other words, again, who has the credibility? The testimony here today should help reassure people that the food from the corner grocery store is, indeed, wholesome and suitable for the human body and it should cause pause to reflect on who receives the benefit from the inflated prices of most of the organic foods - the consumer or those who sell the food.

Certainly the consumer should be allowed to choose between conventional food marketing system with commercially grown food with all that means - agri chemicals/manufacturing, etc. and those by organic culture methods.

We would hope they would do so on the basis of informed

choice rather than emotion and I think we should insist that if the food she selects is organic, it be what she expects it to be. Given the extent of abuse of the system, one way to correct fraud may, indeed be, legally defining and control. It will be difficult to accomplish this because of the small producer nature of the source of the organic foods and because there are no tests for "organically grown" foods. Any regulation needs to be made with the assurance that it will accomplish the need and that is control of fraud and that it will be enforceable. If such comes about, we in the nutrition profession will be happy to help. We wish you well in a very difficult task.

THE ATTORNEY GENERAL: Thank you.

MR. MINDELL: I have no further questions.

Mrs. Hattie Wiener.

EXAMINATION BY MR. MINDELL:

Q Hattie, you are with a co-operative; are you not?

A Yes.

Q Would you tell us with what co-operative you are and what your capacity with the co-operative is?

A I am Chairman of the Products Committee of the Greenhouse Association which is a consumer co-operative in New York City. In fact, it is the largest consumer co-operative

in the east. I have prepared a statement because I was asked to do so. May I read it?

THE ATTORNEY GENERAL: Can you give us your own background, educational and so on?

MRS. WIENER: I graduated pre-med. from Brooklyn College a long time ago and I have since been teaching creative movement to young children three, four, and five years of age. My own commitment to natural foods is a very personal and private sense of the human body and the feelings connected with it.

THE ATTORNEY GENERAL: What capacity are you in with the co-operative you just mentioned?

MRS. WIENER: I am Chairman of the Products Committee which is a voluntary committee.

THE ATTORNEY GENERAL: Do you evaluate purchases?

MRS. WIENER: I think that perhaps if I read the statement and then I'll certainly be glad to hear additional questions.

THE ATTORNEY GENERAL: Thank you.

MRS. WIENER: Okay.

"The Greenhouse Association is a Consumer Co-operative that had its beginnings three years ago

with a small group of people interested in providing themselves with unsprayed, unchemicalized foods. Once a week pick-ups were made of California-grown produce, and two commercial distributors brought dairy and meat staples in from farms in New York State and Pennsylvania. The members bagged their own orders from crates on the floor of a local political club. Well, that club is now a bicycle store and the Greenhouse is now an association of over 1,000 members buying an estimated \$300,000 in products annually from more than fifty distributors in the U.S.

"The Greenhouse starts at the point of accepting the superiority of Organically-raised, naturally-processed foods. There is no way I can contribute to the debate over the relative benefits of these foods. Continuing scientific study hopefully will bring forth enough evidence to substantiate their use... We opt to use them for basically two reasons: The first is that we wish to avoid ingesting the numerous chemicals used in growing, storing and packaging of foods. The second is our concern regarding the tons of chemicals showered on our earth each year.

"It is our point of view that the safety of all these chemicals, alone or in combination is questionable, and until there is a systematic review of each of them and their possible effects on life - and that includes life besides man - we will continue to avoid them and oppose their use. From my point of view, the proof should be forthcoming not from people such as we who insist on treating food as close to its natural state as feasible, but from those who insist that there is no danger in these other methods. In the final analysis, even if at no time in the future absolute proof of the superiority of Organically-raised foods can be advanced, it will still be necessary to prove that the chemicalized food, however equal - or superior as some nutritionists would have us believe - is in fact safe.

"It is not only the food we are eating when we eat products of non-organic producers. We are eating the industrial wastes, the radioactivity, the pesticide errors of the past, the to-be-re-viewed Generally Recognized As Safe chemicals that are under question not only from we health food

people but from the FDA as well. We are also eating medication, mutant bacterial strains, hormone residues and God knows what else. I cannot state with assurance that every chemical is dangerous, but I certainly feel dubious about their usage at best, and terrified at worst!

"Starting from here then, what do we do at the Greenhouse.

"The responsibility for checking into the food we are selling has been given to the Products Committee, a group of volunteers from the membership. We have learnt that our responsibility cannot be solely with careful selection of food. We have had to learn about storing, and packing. Unprocessed food deteriorates rapidly - nutritional values diminish. Molds, bacterial contamination, rancidity and freezer burn are realities with which we must contend - and we are doing that daily. We are concerned that the foods which we are offering, for which we are paying admittedly high prices are what they claim to be. I would like at this point to read a list describing the procedures that our Products Committee has evolved

to insure the quality of the products we sell.

"PRODUCTS COMMITTEE

1. Write and send questionnaires to all present and prospective suppliers.
2. Evaluate the responses and maintain a file of pertinent literature, lab tests and correspondence.
3. Decide which products should be carried.
4. Search for new sources and products.
5. Research nutritional findings, food storage methods, pesticides, additives, etc.
6. Explore confederating with other co-ops for joint buying and testing.
7. Decide which products are to be tested and bring them to a laboratory.
8. Study federal, state and city laws governing transport, certification and labeling of foods.
9. Compare prices with other Health Food stores and coops in the city.
10. Suggest new procedures to be followed for greater economy, convenience, preservation of food value and ecological responsibility.
11. Correspond with colleges, government offices, individual doctors and biochemists with the object

of a more comprehensive knowledge of foods and testing procedures.

12. Review and collate members' product requests.

13. Distribute questionnaires to the membership to ascertain their needs.

14. Answer members' questions through the Newsletter."

(Whereupon, at this time in the public hearing a five minute recess was taken.)

THE ATTORNEY GENERAL: We will now continue.

MR. MINDELL: I believe, Mrs. Wiener, you were up to number 15.

MRS. WIENER: Yes. The final one was, "Establish a coding system on the shelves.

"I am certain that on the question of fraud there will be no argument on either side. A product represented as organic which is in fact not is as repulsive to people who favor organic foods as to those who find the idea absurd and we vigorously support legislation that will stop such practices.

"We endeavor to get what we pay for, and not fill our limited shelf space with products of dubious value and rip off pricing.

"It is frequently said that Americans would never accept the diminution in its food standards and supply that raising food organically would impose on them. Well, at the Greenhouse we are experiencing this so-called unacceptable way and it is working."

EXAMINATION BY MR. MINDELL CONTINUED:

Q Are you concerned about the findings that we have produced here today?

A Sure. However, I feel that if food is supposedly organically raised, then it would hopefully not have the kind of pesticide residues that show up on these charts. (Indicating) Now, in the case of the Greenhouse, in particular, we have laboratory tests taken and when they do show up to be higher than what is considered non-detectable amounts, which is very often zero point zero point one parts per million, we drop that particular product. (Indicating) A lot of these are extremely high. I don't know for what reasons they are high. I would not offhand say that it is because they are not raising the food organically. At the Greenhouse, we don't say that the food has no pesticide residue. We say that the food that we are offering does not have it added to it now. (Indicating) I think that these charts are alarming insofar

as they show that if these are, in fact, organically grown foods just how contaminated our earth has become if organically grown foods are showing this high level of pesticide contamination.

Q Well, it is also alarming, isn't it, in terms of economics because if the consumer is paying double the price and getting the same kind of food that he could have gotten without organic food, then his pocketbook is being severely hurt?

A In the case of these products.

THE ATTORNEY GENERAL: You said yes to that question?

MRS. WIENER: In the case of the products that showed up high in pesticides or fraudulent products, absolutely.

EXAMINATION BY MR. MINDELL CONTINUED:

Q Well, what claims are made when you sell these products to the public? What do you remember personally?

A First of all, we do not say that everything we offer is 100% organic. We have a policy statement which we have written up because we feel that 100% organic could not exist any longer on the face of the earth.

THE ATTORNEY GENERAL: Does your food sell

only to your members of the co-op?

MRS. WIENER: Yes, only to members. Well, to the buying public that are members of the co-op.

THE ATTORNEY GENERAL: How large is your membership in the co-op?

MRS. WIENER: Well, it's about 1,500 people because it's family, children. A family is one membership.

EXAMINATION BY MR. MINDELL CONTINUED:

Q Do you consciously push the sale of the organic food over as being better than ordinary food? Is that your policy?

A We are selling what we expect is not ordinary food. We are putting in every effort imaginable to get what we consider to be superior food insofar as they are not sprayed, colored, processed. We have a very comprehensive questionnaire that checks our products so that we are not giving products that are close to what we can get in the supermarket or we would go there.

THE ATTORNEY GENERAL: Do you on the same shelf in the same store have organic food as opposed to non-organic food?

MRS. WIENER: The only time that happens is if we couldn't get the source originally and we found it to be a source of high nutritional value. For instance, almonds.

THE ATTORNEY GENERAL: So you would then go out and then buy the non-organic food?

MRS. WIENER: In certain instances, almonds in particular, we might get both because there is a membership of different economic levels and we don't want to cater to those people who can afford higher prices.

THE ATTORNEY GENERAL: Have you ever attempted while shopping to see the differential in price between organic food and the same food in a non-organic store?

MRS. WIENER: Absolutely.

THE ATTORNEY GENERAL: No question about it?

MRS. WIENER: No.

THE ATTORNEY GENERAL: The organic store is higher?

MRS. WIENER: Yes.

THE ATTORNEY GENERAL: As much as 50% higher?

MRS. WIENER: Yes. The Greenhouse's prices

are not doubled, nor are they 50% higher.

THE ATTORNEY GENERAL: Apart from the Greenhouse's prices, let's talk about an organic store blocks away, no relation to you, it is higher than the non-organic store as much as 50%?

MRS. WIENER: Yes.

THE ATTORNEY GENERAL: As much as 50%?

MRS. WIENER: I feel it is much too high and that's why we formed the co-op.

THE ATTORNEY GENERAL: Okay.

MR. MINDELL: I have no further questions.

Robert Rodale.

EXAMINATION BY MR. MINDELL:

Q Mr. Rodale, would you state your name, and I assume you represent the Rodale Press that Dr. Schwartz talked about earlier; is that correct?

A Right.

Q Are you the publisher?

A Yes, I am the president and the publisher and the editor. My name is Robert Rodale. I will read my statement.

"I have been associated with the organic food movement for many years. My father, J. I. Rodale, was the first person to associate the word organic with a method of gardening and

farming. He started publication of Organic Gardening and Farming magazine in 1942, and is responsible, more than any other person, for the awareness of natural and organic methods of food production that exists today.

"When the organic idea boomed in popularity several years ago, as a result of the public's interest in fighting pollution, we became aware that misuse of the word organic was becoming a problem. We knew that some dealers in health foods were using the word organic without any intention of having it mean that the foods so labeled were produced without the use of synthetic fertilizers or poisonous pesticides. We also knew that some farmers and dealers were selling ordinary food under organic labels. Government agencies which should have been regulating such fraud were not doing so, because they were unsympathetic to the goals and ideals of the health food movement.]

"Rodale Press executives then realized that there was an immediate need to protect the word organic from misuse, and to encourage people to use it correctly. We realized that nobody else was going to do it, so decided to do what we could ourselves.

"Our first step was to talk to other leaders in the field and arrive at a consensus definition of the phrase organically grown, which we did about three years ago. Here is the wording

of that definition: (Indicating a poster)

"What is Organically-Grown Food?

"Organically-grown food is food grown without pesticides; grown without artificial fertilizers; grown in soil whose humus content is increased by the additions of organic matter; grown in soil whose mineral content is increased with applications of natural mineral fertilizers; has not been treated with preservatives, hormones, antibiotics, etc."

When you ask the public what the word organic food means that is what they generally assume that it means.

"It has since been reprinted in many publications and has been distributed to thousands of organic food outlets in poster form. This definition, in slightly modified form, is now accepted by all regulatory bodies that we are aware of that have a constructive interest in preventing organic food fraud.

"An acceptable definition was just the beginning of our effort. We realized that there was also need to certify organic food, so that consumers could be sure that the principles expressed in the definition were being followed. So, with the help of our Western Editor Floyd Allen, we started a program of certifi-

cation about two years ago which operates in this fashion:

"1. Major stress is placed on education of producers, to be sure that they know what they need to know -- from a technical point of view -- about how to produce food organically. We feel that this first step is by far the most important and successful part of the program, and is one to which we devote a great deal of effort.

"2. Second, we require producers who volunteer for certification to fill out two separate forms in which they detail the methods they use, the crops they grow, and the marketing techniques they use. These forms also have been of extreme value to the program, and such thorough identification of producers and their methods would alone head off many of the instances of fraud that now exist.

"3. Third, after producers have fulfilled preliminary steps, we arrange for samples of their soil and crops to be picked up by independent agents -- during unannounced visits to the farms -- and have them transported to either a commercial testing laboratory or to a government laboratory for nutrient and pesticide residue analysis.

"Finally, the produce of the farm is certified as organically grown and the farmer -- not a storekeeper, but a farmer -- is allowed to put our certification label

on his produce. That label indicates the name of the farm, the crops certified, and the year of production.

"Most of the testing is now being done for us by Agri-Science Laboratories of Hawthorne, California. Organic Gardening and Farming magazine pays Agri-Science a retainer of \$1,250 a month to operate the testing program. Our program is strongest in the state of California, because many of the producers are located there. We have almost a hundred farms certified in that state.

"In other parts of the country, our efforts have been directed toward encouraging regional groups to operate the program, using our standards and procedures and sometimes even our testing arrangements. That is now being done by the Maine Organic Food Association in the State of Maine, and the Washington Organic Food Producer's Association in Toppenish, Washington.

"The total cost to Organic Gardening and Farming magazine for operation of the program, including salaries and travel expenses of field representatives, is about \$60,000 a year. We do not charge any fees of producers, nor do we have any source of income from the certification program. Certification seals are sold to farmers at

our cost." Here are some small samples of the seals that we use.

(Handing to the Attorney General)

MR. RODALE: (Continuing) "In Pennsylvania, our own Department of Agriculture is now operating a certification program for organic foods in conjunction with Pennsylvania State University and Rodale Press. We serve as unpaid consultants to the Department for that program, and so far it seems to be working quite well. Similar programs are being considered by other states.

"We have available much printed material about our program that we are happy to make available to anyone interested. I specifically recommend this article in Compost Science by Rudi Mattoni, the director of Agri-Science Laboratories. It is a transcript of a paper on organic food certification that he delivered at our West Coast Organic Farmer's Conference in San Francisco last spring.

"I realize that many city people find it difficult to see organic food as anything more than a type of health food. Many critics of the popular health movement also deliberately visualize the organic food idea in a limited way.

"Actually, the primary strength and popularity of the organic food idea stems from the fact that there are hundreds of thousands of organic gardeners in this country -- maybe even millions. And there are tens of thousands of part time and full time organic farmers and homesteaders who use organic methods to supply much of their families' food. Those people are the reservoir from which interest in the organic movement comes primarily.

"You should also be aware that, in a way, the organic farming method is being forced upon unwilling conventional farmers, bit by bit and piece by piece. First, they have some of their favorite poisonous pesticides taken away, because of environmental problems. Now, some of the most common artificial fertilizers, particularly the nitrates, are being limited by legislation, to prevent contamination of underground water supplies. Farmers are also being forced to find on-the-farm methods for disposal of animal manure, to avoid pollution of waterways.

"I think it is very important that city people realize what is happening on the farms and in the gardens, and be prepared to change some attitudes and

open their minds in order to adjust to the ecological revolution that is taking place in the countryside. Agriculture is now a major source of pollution in this country, and we are not going to want that to continue. The organic method is the only non-polluting form of agriculture, as Sen. Alan Cranston of California said recently in introducing his organic food certification bill in the Senate."

I would like to give you copies of the forms that we use in our programs and general information about it.

(Handing documentation to Mr. Mindell.)

THE ATTORNEY GENERAL: What is the language of your certification. After you inspect, you get some samples from the producer, right?

MR. RODALE: Right, yes.

THE ATTORNEY GENERAL: What do you say when you give the producer the certification? (Indicating) Is this what you say?

MR. RODALE: Yes, that goes on the package of food.

THE ATTORNEY GENERAL: (Indicating) All you say is "Organic Farmer - Certified by Organic

Gardening and Farming Magazine"?

MR. RODALE: Yes.

THE ATTORNEY GENERAL: Are you prepared to say that organic food has a nutritional superiority over ordinary food?

MR. RODALE: Well, there are many factors that influence the nutritional value of food and many of these factors are part of the organic system. For example, as Dr. Lachance said, the sunlight on an apple affects the spraying of plants in a row, the selection of varieties that are used, the amount of irrigation used, the type of fertilizer, the type of soil.

Now, if a farmer wants to produce food that is nutritionally superior he can use all varieties of methods and do that.

THE ATTORNEY GENERAL: To make it that way?

MR. RODALE: Yes, to make it that way. And

organic farmers are encouraged to use as many

of these methods to improve nutritional value

as they can practically, and it is absolutely

incorrect as some people have said here this morning that there is no difference in the nutritional value.

THE ATTORNEY GENERAL: What is your background? Do you disagree with these people with college degrees? They have been at it for years. They are doctors. What is your background?

MR. RODALE: I am trained as an English major in journalism. I admit I don't have the background.

THE ATTORNEY GENERAL: You are a journalist, right?

MR. RODALE: I am a journalist. Right now, at that point, I will defer.

THE ATTORNEY GENERAL: You will rest your case?

MR. RODALE: I believe that they are, in fact, criminally negligent.

THE ATTORNEY GENERAL: You have no right to say that in light of your background. You majored in writing articles and these are people who graduated school and they are connected with the federal government, with the

state government, and with the city government and they have had years of experience at hospitals.

MR. RODALE: They have also had millions of dollars fed into their laboratories by food companies with a vested interest in this kind of food.

THE ATTORNEY GENERAL: Are you charging for the certifications you give?

MR. RODALE: No.

THE ATTORNEY GENERAL: Do they subscribe to your magazine?

MR. RODALE: They don't have to subscribe to our magazine.

THE ATTORNEY GENERAL: But some do?

MR. RODALE: Yes, some do.

THE ATTORNEY GENERAL: After you give the certification, you don't control what label has to be put on the food that eventually reaches the shelves? You have nothing to do with that?

MR. RODALE: If they misuse the label we withdraw the certification.

THE ATTORNEY GENERAL: You don't follow me.
(Indicating) After you put this label on their

product?

MR. RODALE: That goes on the box or the container or the can and they are authorized to use it only on food which is certified.

THE ATTORNEY GENERAL: With the thousands of retail stores around the country, other labels are put on when it reaches the retail store? You wouldn't know about that?

MR. RODALE: We check.

THE ATTORNEY GENERAL: You don't visit every store in the country, do you, that sells organic food?

MR. RODALE: Most of that -- it is a peel-off label.

THE ATTORNEY GENERAL: Not a peel-off. At this stage, another label gets put on?

MR. RODALE: For example, Bordens uses that.

THE ATTORNEY GENERAL: Do you say that the putting on of extra labels by those who sell these organic products is not within your control or your inspection or your supervision?

MR. RODALE: We do control it as best we can.

THE ATTORNEY GENERAL: Where are you located, in California or Pennsylvania?

MR. RODALE: Pennsylvania.

THE ATTORNEY GENERAL: You have people going around to the stores in New York to see what labels appear on the organic food?

MR. RODALE: Well, obviously, we can't go to every store, but we do follow as many as we can.

THE ATTORNEY GENERAL: Go ahead. Finish.

MR. RODALE: Well, we know that it is an extremely difficult problem.

THE ATTORNEY GENERAL: The public buys on a label by reputation you know.

MR. RODALE: We consider this as an experimental program, as a constructive way to try to certify organic food and we realize it's not a perfect program and we are open to suggestions. If you can suggest a different way, we are open for suggestions.

THE ATTORNEY GENERAL: I am just interested in one thing and that is protecting the public.

MR. MINDELL: We have just one last witness and her name is Mrs. Joan Gussow, and she has a prepared statement. She is not going to read it. She is only going to take a minute.

Before I do that, I would also like the record to reflect that we are including a statement of Dr. Ruth Leverton of the United States Department of Agriculture and a statement from Dr. Charles Edwards of the Food and Drug Administration. They will be added to the record and we will furnish them.

"Statement by Ruth M. Leverton, Science Adviser Agricultural Research Service, U.S. Dept. of Agriculture

"There is no proven, substantiated basis for claiming that plants grown with only organic fertilizer have a greater nutrient content than those grown by conventional methods. The type of fertilizer used - whether organic or inorganic - is not a determining factor in the nutritive value of the plant.

"The nutrient content of a plant is based on its genetic nature. The genes in a carrot cause it to develop a relatively large amount of Vitamin A-value, just as the genes in an orange are responsible for its high vitamin C content. Climate (including the amount of light), together with kind and amount of nutrient material available to the plant for growth, and the stage of maturity when the plant is harvested are the other chief factors involved.

"Nutrient material must be in the inorganic form to be absorbed by the plant. This means that organic fertilizer must be broken down into its inorganic components before the elements are absorbed. Also most of the nutrients present, except for the mineral elements are synthesized in the plant rather than being absorbed from the soil in the preformed state.

"Maintaining or preserving the nutritive value of fresh vegetables and fruits from the time they are harvested until they are marketed and then until they are consumed requires great care. Maintaining 'freshness' is the key to maintaining nutritive value. But maintaining freshness, including the desirable flavor which it connotes, has nothing to do with the manner in which the vegetables or fruits are fertilized and grown. Freshness depends on the manner and the time of harvesting, control of such factors as temperature and humidity, packaging, speed of transportation, and thereafter the handling at the wholesale and retail levels, and in the home.

"The nutritive superiority of most whole grains over their more refined counterparts, i.e., whole wheat flour vs. white flour, is well recognized. This superiority, however, is in no way related to the type of fertilizer used or the use of pesticides or additives. The process of refining removes some of the nutrients in varying degrees, especially the B vitamins, iron, and trace minerals. Often products are "enriched" by adding certain purified B vitamins and iron. This is not done, however, for the trace minerals and vitamin E lost in the refining.

"Increased use of cereals in the whole grain form is commendable. It can be promoted on the basis of increased nutritive value but not related to fertilizer and processing methods.

11/28/72"

"STATEMENT FROM COMMISSIONER CHARLES C.
EDWARDS, M.D.

Food and Drug Administration

(submitted by New York District)

"The Food and Drug Administration recognizes that there has been a sizeable increase in the marketing of food products, particularly fresh fruits and vegetables, under the claim of 'natural' or 'organically grown.' In most instances, some special claims of superiority are implied for these fresh products, but no clear definition of either 'natural' or 'organically grown' is usually provided.

"The Food and Drug Administration understands that the term 'natural' has generally applied to fresh produce that has been produced without the use of agricultural chemicals and has been fertilized with manure or other naturally occurring organic matter. The same general definition applies to foods labeled with the term 'organically grown.' It is assumed that terms such as 'pesticide free', 'produced without the use of pesticide', and 'produced without chemicals' are variations of the above and purport to describe how the food was produced.

"The Food and Drug Administration has not established any definition for 'natural' or 'organic food' and is of the opinion that any attempt to define such products would have limited value because no definite procedures are available to identify such foods based on laboratory analyses.

"While analytical procedures are available to detect the amount of pesticides, no such procedures are available to identify products produced using manure or naturally occurring fertilizer. In addition, it is not possible to distinguish between the trace amount of pesticides present in a food due to prior application of pesticides on a plot of ground, and those present in a plant because of actual use of pesticides during the growth period.

"While the Agency is not aware of any information that food produced in the manner described has any nutritional quality differing from foods produced by usual agricultural practices, it is recognized that some individuals, because of personal belief, wish to purchase foods grown by the 'natural' or 'organic' procedures described above. If the consumer is asked to pay prices greater than those charged for the similar products available in the store because of claims that the foods are 'natural' or 'organically grown', it would appear reasonable that the labeling of such foods should be honest and correct.

"Because of the limitations in methods for determining the manner of production, it would appear that there is no really available method for assuring the consumer that products bearing such labels as 'natural' or 'organic' are true. While a certification procedure, with farm visits and monitoring of the production of products by representatives of regulatory agencies could produce some assurance, this procedure would be extremely costly, requiring a large number of inspectors. Since the Agency is not aware of any special health benefits nor of any potential nutritional harm, it does not feel that it should initiate an expensive and only partial effective certification program. For their own economic benefit, it would appear reasonable that those groups interested in foods

produced and labeled 'natural' or 'organic' give consideration to developing a definition of these products, and consider establishing a self-certification program covering the production of these foods, including field inspections.

Charles C. Edwards, M.D.
Commissioner of Food and Drugs"

EXAMINATION BY MR. MINDELL:

Q Could you state your name and your affiliation?

A My name is Joan Gussow and I am an instructor in a Program in Nutrition in Teachers College, Columbia University.

Q Mrs. Gussow, you have presented to us a ten-page statement which we will now present for the record and I would ask you if you will rather than read it, since it will be now included in toto, if you would merely do us the courtesy of summarizing it and hitting the highlights of it.

(Note: Whereupon, at this time, Mrs. Gussow's prepared statement was incorporated as part of the record.)

"STATEMENT BY JOAN GUSSOW
Program in Nutrition
Columbia University Teachers College

"I want to emphasize that I am not speaking today as an expert in agricultural pollution -- but as a nutrition educator for whom concern about human nutrition implies concern about how food is produced.

"So I would like to start off by making a few points as a nutrition educator. There are at least three terms which are constantly confused: organic foods, natural foods, and health foods. 'Health Foods' is a term which I understand to cover that dazzling array of items ranging from special foods for those on salt or sugar-free diets to the latest aphrodesiac import. Many so-called 'health food' stores devote more space to vitamin and other supplements than they devote to food -- a circumstance I find contradictory if their owners really believe that the foods they are selling are nutrient charged. As I suppose my definition makes clear I think a lot --not all by any means-- but a lot of what turns up in 'health food' stores is, in the vernacular 'a rip off' nutritionally, and otherwise. (Of course, as the FDA recently reminded us, much of what is sold in your corner drugstore for the cure of human unhealth or unhappiness is also of questionable value -- a fact we should not lose sight of.)

"'Natural' food stores, on the other hand, don't usually sell vitamins. They carry foods which may or may not have been grown 'organically', but which have been minimally processed and are presumably additive free. These include various grains, whole and ground; nuts, dried fruits, beans, seeds; honey, and so forth. Some of these foods contain more nutrients than similar foods available at the supermarket --the whole grain flours and meals, for example, are more nutritious than their more refined counterparts-- and some of the foods, like the unsulfured dried fruits, may be less nutritious, since sun-drying destroys more of the Vitamins A and C in fruits which have not been sulfured. The 'natural food' stores I know --and I am not a marketing inspector-- seem to be selling a genuine product -- though obviously there are cheaters in every business-- and they seem to be selling it at a reasonable price. The natural food store in

my community sells a number of nutritious foods not available elsewhere, whole grain flours and brown rice, for example, and various other items like rolled oats, sesame seeds and filberts, which they sell in bulk at prices lower than those at the supermarket.

"Since virtually all foods are organic, the term 'organic foods' is really a misnomer. It refers to foods grown by the organic method -- which I am sure will be described here this morning. Since organically-grown foods are usually 'natural' --that is, minimally processed-- they share whatever nutritional advantages 'natural foods' have. What seems to be at issue, however, is something else -- namely whether these foods, by virtue of the manner in which they are grown, contain either more nutrients or nutrients which are in some way better than those in foods not so grown. For the moment I would like to say only the following: I know if no scientific evidence at all that those who eat organically-grown foods will be nutritionally better off than those who shop the neighborhood supermarket -- except for the incidental fact that many of those who are worried enough about what they eat to buy organically-grown produce are sometimes also worried enough to select their diets more wisely than the average nutritionally-illiterate American.

"But while I cannot, as a nutritionist, ascribe special nutritional merit to foods grown by the organic method, I am here today because I think there are legitimate ecological reasons why people might want to buy organically-grown foods -- and I feel strongly that those who want to do so ought to have some assurance that they are actually doing so. To buy organically-grown food is to support organic farming. Among the reasons one might choose to offer such support are the following:

"First, the availability of the organic alternative is in some areas encouraging a movement back to the land, thus reversing in a small way the forces that have been driving some 2000 farmers a week --a disproportionate number of them black-- of their farms and, often, into the already overburdened central cities. Another reason why one might wish to support the organic farming movement is because it is a way --at a time when we need all the help we can get-- of keeping out ecological options open.

"Human food production has always represented an intervention into nature's cycles, but only within the last few decades have the growing sophistication of our farming methods and the burgeoning population which those methods enable us to support, have combined to produce world-wide effects. Lester Brown, formerly with the Department of Agriculture and now a Senior Fellow with the Overseas Development Council, has written: 'The continuing expansion of land under the plow and the evolution of a chemically oriented modern agriculture are producing ominous alterations in the biosphere, not just on a local scale, but for the first time in history on a global scale as well.'

"'Modern agriculture,' he goes on, 'depends heavily on four technologies, mechanization, irrigation, fertilization and the chemical control of weeds and insects. Each of these technologies has made an important contribution to the earth's increased capacity for sustaining human populations and each has perturbed the cycles of the biosphere.' The fact is, as many observers have pointed out, we seem at the moment to have no choice. We are in a breakneck race to produce enough food to stave off starvation in the majority of the world.

"Actually we do have some choices --some very obvious ones-- but it is doubtful if we will take them. If we were willing to reduce somewhat our own standard of eating, to eat less beef or to live lower down on the food chain, we would have more time in which to solve the population problem. Let me digress for a moment to make that point clear. Americans eat a lot of beef, and we keep eating more -- over the last 20 years we have almost doubled our per capital consumption. Yet of all the animals we raise for food beef is the least efficient feed converter. A steer requires 8-12 pounds of feed to produce one pound of animal weight. That's on the hoof. One ten ounce broiled steak represents 17 pounds of corn, four pounds of hay and two pounds of protein supplement. This is how we, in America, manage to consume 1600 pounds of grain per person per year. We turn most of it into eggs, milk and meat. People living in poor countries cannot afford to do that. They have only the equivalent of 360 pounds of grain a year, about a pound a day, so they must consume most of it directly instead of feeding it to animals. That 10 ounce broiled steak thus represents 17 days worth of food for someone living close to starvation -- and the two pounds of protein supplement we feed

our cattle in addition would be a nutritional bonus. Thus in his role as a food consumer, as Brown points out, the average American makes four times the demand on the biosphere as he would if he were living like most of the world -- largely on grain.

"But we needn't move down that low on the food chain. Fish and chickens are much more efficient converters of feed than cattle. A broiler chicken or a fish requires only about a fifth as much feed as a steer to put on a pound of weight. Noting this differential, a booklet called 'Animal Wastes' prepared by an industry group for the Secretary of Commerce, suggests that 'a superficial approach to the reduction of pollution would be to eat more fish and less beef.' As a nutrition educator I hardly consider that a superficial approach. The American Heart Association has been pleading with us for years to eat less beef, more fish and chicken for the sakes of our hearts and blood vessels. Thus reducing our intake of beef would provide us with an excellent illustration of what Barry Commoner has called one of the four laws of ecology -- namely, you never do only one thing. By eating less beef we would improve our health, reduce our demand for feed grains and hence our impact on the biosphere, reduce the amount of animal manure, the largest single source of solid waste in the United States, while simultaneously increasing the lead time we have to solve the population crisis. However, it is unlikely, as I have said, that we shall convince the American people to moderate their own consumption simply in order to give the world more time to solve its population crisis.

"Therefore we are forced for the time being to continue our assaults on the ecosphere --with massive inputs of fertilizer and pesticides, with cattle and chicken factories and their accumulating manure problems-- since the cost-benefit ratio still seems to favor such an approach. It was in an industry prepared publication on the pollution potential of fertilizers and other agricultural chemicals that I came across the observation that the problem lay in deciding just where 'the proper balanced social responsibility lies as between the prevention of starvation and environmental protection.' It is perfectly clear that there will come a point where the balance will tip in favor of 'environmental protection', since without an environment to sustain us there will be nobody left to starve. At some point the ecological cost of further expanding food

production by the disruption of natural cycles will simply render the earth incapable of supporting life -- at least life in any way that we can understand it. We do not really know when that point will come. We have kept being surprised by the after effects of our inventions -- the pesticides that persist and accumulate in the food chain, the hybrid corns that turn out to be vulnerable to disease. We do not know what future surprises nature has in store for us as we continue to simplify the once richly complex tissue of life on the globe. No one here can say with confidence when we shall have to turn around, when we shall have to make an effort to fit ourselves back into the cycles of nature or face extinction.

"Against that time, however, we ought to have a little something put away -- which is where organic agriculture comes in. For the organic method as it is evolving, is an attempt to work out a modern, productive agricultural system which working within natural cycles seeks to utilize wastes instead of producing them. I am hopeful that organic farming will begin to be seen in this way --as insurance-- as an experiment on some of whose results the survival of mankind may someday come to depend. I am astonished at the hostility that this small band of farmers and those who buy their produce generate in some quarters. We live in a country which must put a brake on its agricultural productivity in order not to produce price-depressing surpluses. Surely in such a country we can afford a little variety in our farming methods; surely in the face of our dying rural life, our 2 billion tons of manure and our 10,000 item supermarkets we can welcome the existence of an approach to farming which produces good food, does not pollute, and helps people who wish to remain on the land.

"I would like to conclude with three remarks which I hope will be clarifying:

"1) I think some sort of certification program should be instituted which would assure those who wish to buy organically-grown foods --for whatever reasons-- that they are indeed doing so. And I do not think that organic farmers, who are already bearing the higher costs involved in ecologically-sound farming should be forced to pay an additional penalty for having their wares protected from dishonest merchants.

"2) I am deeply troubled by the fact that because the smell of money has lured some phonies into the 'organic food' market, certain people have branded the whole movement a fake. It is not. Nor is it yet particularly powerful. I read a comment recently to the effect that it was a shame that the public's new concern for nutrition should offer an opportunity for 'food faddists' to extend their 'power base'. I find the term 'power base' applied to the organic food movement ludicrous. The entire 'organic food market' -- much of which may not even be organic probably amounts to no more than \$40 to \$50 million. That is just about one-fourth of the annual advertising budget of a single non-organic company which makes a variety of non-nutritious food products. As a nutrition educator I am personally much less worried about the power base of the health food industry than I am about the power base of the fun food industry.

"3) And finally, I would like to return to nutrition. I said earlier that organically-grown foods have not been demonstrated to contain any mysterious ingredient X which makes them especially healthy. Note that I have not said they do not contain such an ingredient -- but that such claims have not been demonstrated. The history of science is littered with the bones of dead certainties; while acupuncture remains unexplained but increasingly convincing, the least we can do is use it as an object lesson in humility -- and a reminder to ourselves that there is still a great deal we do not understand.

"I spent some time this week doing some comparison shopping -- for carrots. I bought some at a supermarket -- both fresh and frozen in brown glaze, and I bought some at an organic foods cooperative. The fresh carrots at the cooperative cost \$.29 a pound, compared to \$.25 a pound for the carrots from the supermarket. The carrots in brown glaze came to considerably more; they were 46.4 cents a pound.

"The carrots in brown glaze have several clear disadvantages besides their high price. They are packed in a non-biodegradable plastic-coated container -- so they add to the solid waste problem. Furthermore they come packed in sugar, a poor idea nutritionally since the American diet is already too high in sugar. They have one advantage, convenience. Yet I hear no expression of concern that we

should protect the customer from the food freezers because in our society we consider convenience a legitimate thing to pay extra for. In my scale of values the survival of the planet comes higher. I do not condemn the customer who chooses to pay a premium for a product which is ecologically unsound and nutritionally somewhat degraded on the chance that he may save some time. But I must confess to having more admiration for the customer who chooses to pay his premium for an ecologically-sound product, on the off-chance that it may be healthier. Thank you."

(Note: Witness below answers Mr. Mindell's statement given previous to Mrs. Gussow's speech being incorporated.)

A I will do my best. As a matter of fact, I am tempted simply to answer many of the things that have been said, but I think one of the things that does trouble me is the amount of hostility I sense towards the people who are trying on their own to regulate this.

Q Hostility by whom?

A By the Attorney for one. I think that they are making a certain attempt to control something.

THE ATTORNEY GENERAL: Don't you give us credit for having people come here from both sides?

MRS. GUSSOW: Yes. I think fraudulent organic foods are more troubling to the people who are trying to garden organically.

THE ATTORNEY GENERAL: But we brought people people from both sides and not many public officials do that who have one viewpoint, so give me credit for that. Will you apologize for what you said? I have no hostility towards organic food. The statement I read this morning said I have no conception. I have no ideas. I am not for or against it. Did you take a copy of the statement?

MRS. GUSSOW: Yes, I did.

THE ATTORNEY GENERAL: Read the statement I read this morning. I am here to explore, to find out what do we do to protect the public? When the hearing is over, and if I am convinced, then something will be done. But, we called in people on both sides and we have to ask questions, my dear woman, otherwise you don't learn in this world unless you ask questions.

Q Mrs. Gussow, do you feel something needs to be done?

A I very much feel that there should be some sort of certification of organically grown foods and I really don't like the term "organic foods" because all foods are organic and I don't think the organic farmers should pay for it because what is really being done is to protect them from dishonest

merchants. I think that a distinction must be made between people seriously interested in organic farming and gardening and the people who fraudulently have tried to capitalize on the movement since it suddenly became popular. I made a distinction in the beginning of my statement which I am not going to read now verbatim. But generally speaking, what I said was that "health food" stores or a lot of what turns up there is "a rip off" nutritionally, and otherwise. Now, "natural" food stores are a very new kind of thing in which the foods may or may not have been grown organically, but which have been presumed to be minimally processed and are supposedly additive free.

Now, the real question is, is there anything extra in these foods as a result of the manner in which they are grown that makes them contain either more nutrients or nutrients which are in some way better than those in foods not so grown. I would like at this moment to make the following statement:

Q Well, before you do that, do you adapt the definition of "organic" as Mr. Rodale said? What is your definition of "organic"?

A He is uniquely qualified to give that definition, but I rather like Dr. Lachance's notion of calling it ecological because I frankly think that the important thing is its ecological impact which is what my statement is concerned with to a large degree.

Q Would you share our views that the public apparently from what we have been able to find is being imposed upon by wide-spread misrepresentations of what these foods are and are not? I think that really is the focus of what we have developed today, not whether or not per se the food is good, although we have heard from many experts that nutritionally it is not superior.

A I think the public is being imposed on in this field. However, I think the public is being imposed on in a number of fields. For instance, in my statement, I indicated that I think that a lot of food sold at health food stores is "a rip off", but I also think a lot of what is sold in drug stores for the improvement of health and human happiness is also "a rip off".

Q What would you do to change that?

A As I said in my statement, I have no scientific evidence that those who eat organically-grown food will be nutritionally better off than those who shop the neighborhood

supermarket -- except for the incidental fact that many of those who are worried enough about what they eat to buy organically grown produce are sometimes also worried enough to select their diets more wisely than the average nutritionally-illiterate American.

Q Are you saying that the more sophisticated the consumer, the more likely he is to buy organic food?

A At this point, it is true. What we are saying is that an enormous number of medical students and an enormous number of nutritional students come in and say they are on special diets, they are on vegetarian diets and so forth. I know this to be a fact.

Q I don't doubt that a large percentage of the more sophisticated, nutritionally-knowledgable people are buying it, but our concern is with the average consumer who, incidentally, is to a large extent buying the stuff.

A But you did not go, I gather from what was said earlier, to natural food stores or organic food stores. You went to health food stores?

MRS. LICHTBLAU: We went to all of them.

THE ATTORNEY GENERAL: Mrs. Lichtblau is in charge of the investigation. She covered all types of stores.

MRS. GUSSOW: I accept that. I was just picking up what was said. My point is I have not done a customer survey of those kinds of stores at all. I only know what we are seeing in the universities and that is, I think, the fact that there are university dining rooms which are going to natural foods and health foods and that is some indication that it is not the lower classes necessarily that are interested in this.

Q I think everyone is interested. I think we all agree on that.

A I think the reason for it is an ecological reason which is what I was trying to say in my statement. I would like to read what I said at the end which would be my concluding remarks.

Q All right.

A "1) I think some sort of certification program should be instituted which would assure those who wish to buy organically-grown foods --for whatever reasons-- that they are indeed doing so. And I do not think that organic farmers, who are already bearing the higher cost involved in ecologically-sound farming, should be forced to pay an additional penalty for having their wares protected from dishonest merchants.

"2) I am deeply troubled by the fact that because the smell of money has lured some phonies into the 'organic food' market, certain people have branded the whole movement a fake. It is not. Nor is it yet particularly powerful. I read a comment recently to the effect that it was a shame that the public's new concern for nutrition should offer an opportunity for 'food faddists' to extend their 'power base'. I find the term 'power base' applied to the organic food movement ludicrous. The entire 'organic food market' -- much of which may not even be organic probably amounts to no more than \$40 to \$50 million. That is just about one-fourth of the annual advertising budget of a single non-organic company which makes a variety of non-nutritious food products. As a nutrition educator, I am personally much less worried about the power of the health food industry than I am about the power base of the fun food industry.

"3) And finally, I would like to return to nutrition. I said earlier that organically grown foods have not been demonstrated to contain any mysterious ingredient X which makes them especially healthy. Note that I have not said they do not contain such an ingredient -- but that such claims have not been demonstrated. The history of science is littered with the bones of dead certainties; while acupuncture remains unexplained but

increasingly convincing, the least we can do is use it as an object lesson in humility -- and a reminder to ourselves that there is still a great deal we do not understand.

"I spent some time this week doing some comparison shopping -- for carrots. I bought some at a supermarket -- both fresh and frozen in brown glaze, and I bought some at an organic foods cooperative. The fresh carrots at the cooperative cost \$.29 a pound compared to \$.25 a pound for the carrots from the supermarket. The carrots in brown glaze came to considerably more; they were 46.4 cents a pound.

"The carrots in brown glaze have several clear disadvantages besides their high price. They are packed in a non-biodegradable plastic-coated container -- so they add to the solid waste problem. Furthermore, they come packed in sugar, a poor idea nutritionally since the American diet is already too high in sugar. They have one advantage, convenience. Yet I hear no expression of concern that we should protect the consumer from the food freezers because in our society we consider convenience a legitimate thing to pay extra for. In my scale of values the survival of the planet comes higher. I do not condemn the customer who chooses to pay a premium for a product which is ecologically sound and nutritionally somewhat degraded on the chance that he may save some time. But I must

confess to having more admiration for the customer who chooses to pay off his premium for an ecologically-sound product, on the off-chance that it may be healthier."

Also, I would like to make a statement about, for instance, pesticides that persist and accumulate in the food chain, and the hybrid corns that turn out to be vulnerable to disease, things along this line. I feel that we should keep alive an alternative, which is really what these people are offering, and all I see the organic people doing is providing an alternative if we are going to have to figure out how to survive or face extinction on this planet. And I would like to see them protected from fraudulent merchants.

THE ATTORNEY GENERAL: Let me ask you this.

In advancing that alternative, you agree, do you not, that there should not be misrepresentation?

MRS. GUSSOW: Exactly.

THE ATTORNEY GENERAL: You agree, do you not, that people should not be told that it will cure their diabetes or help them to lose weight?

MRS. GUSSOW: Exactly.

THE ATTORNEY GENERAL: And that they shouldn't speak out on things they don't know anything about.

MRS. GUSSOW: Yes, I agree on that.

THE ATTORNEY GENERAL: Well, that's all we are trying to do. Were you here when I started this hearing? The purpose of this hearing is not to condemn or condone organic or natural foods. Just remember that.

MRS. GUSSOW: Fine.

MR. MINDELL: General, we have no further witnesses.

(Note: Whereupon, the statement of Thomas J. Mahoney and the food charts referred to earlier were incorporated.)

Statement of Thomas J. Mahoney, Director, New York Office, Department of Agriculture and Markets, State of New York.

"MEETING ON ORGANIC FOODS - DECEMBER 1st, 1972 - ATTORNEY GENERAL'S OFFICE"

"My initial contact with Mrs. Thelma Lichtblau was a general inquiry regarding Organic Foods. I stressed our need for specific regulations and definitions dealing with the expanding sales and demand for Organic Foods, and then followed a series of meetings with field force involving Senior Inspectors and Inspectors, and practically all metro area was covered and various commodities were sampled and submitted to our lab for analysis, which you will hear about, shortly from the Director of the Food Laboratory, Dr. Elmer George.

"Mr. Nargari, Super-Law Officer for New York State, stated 'where there is money, that is where you will find corruption', is it not true, that the present escalated prices of Organic Foods tend to corruption in the market place, with the price of Organic Foods selling at 50 to 100% more than regular foodstuffs.

"From an enforcement point of view, we know, and have been conscious of the 'misrepresentations' being made, and feel that the consumer, the purveyor, and the grower, will eventually all be satisfied, and 'misrepresentations' will be prosecuted, when we can develop some meaningful type of rules and regulations, and definitions pertaining to Organic Foods, for instance, a Certification of the foods represented as Organics and define 'Organic'.

"It is not proper for me to say this, but I know, our priorities have not been slanted toward the phenomenal acceptance of these Organic Foods by the affluent society, who from California to Maine would travel miles out of their way to procure same, however, back to the problem, investigations of these products, involve a tremendous amount of man-hours in tracing the products to the source, involving other agencies and other states, sampling, testings, reviewing analysis reports, and if there was actually deception used in producing, distributing or selling the product.

"Persistent chemicals on the farms, may show up in the farm products long after actual use of these pesticides. Feeds sold to producers of fowl, cattle, etc., may contain various chemicals or drugs and do show up in the products that are being sold as Organic, in our laboratory tests.

"Who is misrepresenting What? This is the question, and we must promulgate rules and regulations to control the production, distribution and sale of these Organic Foodstuffs.

"These questions, hopefully, will be thoroughly discussed here, and give us some insight, in which direction we shall pursue in the promulgation of rules and regulations, hopefully, some of these questions may be resolved at this meeting.

"If there are any questions, I will be happy to answer same, if I don't have the answer, I will endeavor to obtain same."

ORGANIC FOOD	LABEL	LAB. FINDINGS	COST	
			ORG. FOOD	REG. FOOD
SPINACH	UNSPRAYED, ORGANICALLY GROWN, NO CHEMICAL RESIDUE.	UNIDENTIFIED PHOS. COMPOUND 0.07 PPM (BASED ON DIAZANON) A CHEMICAL RESIDUE	10 oz. \$.75	10 oz. \$.39
DRIED APRICOTS	NO FUMIGANTS, NO PESTICIDES.	0.03 ppm DDT	10 oz. 1.24	8 oz. .59
CARROTS	GROWN WITHOUT CHEMICAL ARTI- FICIAL FERTILIZERS, TOXIC PESTICIDES, FUNGICIDES, FUMIGANTS OR HERBS.	0.07 - DDE 0.19 - DDT	1 lb. .45	1 lb. .25
(CEREAL) WHEAT BERRIES	ABSOLUTELY GUARANTEED ORGANIC.	0.02 PPM DDT	1 lb. .30	* NC ---
PICKLED BEETS	NO TURMERIC ALUM, BENZOATE OF SODA, OR ACIDS.	CONTAINED ADDED VINEGAR (DILUTE ACETIC ACID)	16 oz. .85	16 oz. .29
ELBOWS	ABSOLUTELY GUARANTEED ORGANIC.	UNIDENTIFIED PHOS. COMPOUND 0.19 PPM (BASED ON DIAZANON)	1 lb. .57	1 lb. .31
CASHEW NUTS	NATURAL ORGANIC, FULL OF NUTRI- TION, EXTRA LARGE, SUPERIOR QUANTITY, FRESH SHELLLED WHOLESOME, FLAVORFUL, CARE- FULLY SELECTED, PROTEIN RICH	CHLORINATED PESTICIDES (BHC) 0.18 PPM	8 oz. 1.10	6 oz. .59
TEA	100% NATURAL ORGANIC IMPORTED ORGANCE FLOWER TEA.	4.00 PPM BHC 5.13 PPM DDT ANALOGS 0.54 CARBO-PHENTHION 1.49 UNIDENTIFIED PHOS. COMPOUND (BASED ON DIAZANON)	BOX OF 40 1.49	BOX OF 48 .67

*NC - NOTHING COMPARABLE

<u>ORGANIC FOOD</u>	<u>LABEL</u>	<u>LAB FINDINGS</u>	<u>COST</u>	
			<u>org. food</u>	<u>reg. food</u>
CARROTS	ORGANIC CARROTS	0.02 PPM DDE	1 lb. \$.40	1 lb. \$.25
TEA	100% NATURAL ORANGE FLAVOR TEA	2.98 PPM DDT 2.02 PPM LINDANE 0.17 PPM DIELDRIN	BOX of 40 \$1.49	48 .67
RAISINS	ORGANIC RAISINS	0.16 PPM ETHION	16 oz. \$1.15	15 oz. \$.49
DRIED PRUNES	ORGANIC FOODS	0.5 PPM KELTHANE 0.04 PPM DDT 0.02 PPM METHOXYCHLOR	1/2 lb. \$.35	1 lb. \$.49
CHOW CHOW (RELISH)	ORGANIC CHOW	0.02 PPM TDE	15-1/2oz. \$.75	22 oz. \$.29
SESAME CANDY	AN ORGANIC CHEW	0.03 PPM DDT 0.01 PPM DDE	3 oz. \$.41	13 oz. \$.93
BEETS	ORGANIC BEETS	0.03 PPM DDT 0.01 PPM DDE	1 lb. \$.39	1 lb. \$.25
FRUIT CEREAL	NATURAL ORGANIC	0.21 PPM MALATHION	13 oz. \$.98	*NC

*NC-nothing
comparable