

Writ of Review

Jose Romero: We farmworkers who make our living out working in the fields find ourselves having to return to work every day with backs, necks, and legs that still hurt from working the day before. I do not wish to work with the short handle. It is not a human type of job. No one should be expected to work bended down for that length of time. Short handle hoe work is too hard to do. The short handle hoe ruins the farmworker's back, and before he is 50, he is so disabled he must go on welfare.

Eligio De Haro: I first worked with the cortito (the short handle hoe is commonly referred to as the "cortito" by farmworkers' in 1965 in Calexico, California. I had worked in New Mexico with a long handle, thinning and weeding cotton. I could easily work ten hours a day with a long handle. When I work with the cortito I find it hard to work 8 hours. I come home with so much pain sometimes rubbing and hot patches don't help.

Jesus Serrano: During my working years my friends used to make fun of me because of the way I walked, bent forward like a gorilla, which is caused by working with a cortito.

Sebastian Carmona: As the years went by I began to realize that I wasn't walking as erect as before. I definitely feel that using the short handle hoe was responsible for weakening me to the point that I can no longer sit or stand straight as I once did. I am 46 years old.

Isabel Cardena: When there is no other work available but the cortito, my oldest son is the only one that can work and provide for us. My son dislikes that type of work because it is also too hard for him; he is only 16, but he has no choice.

Crops for which the normal hoe is used include alfalfa, beans, beets, bell peppers, berries. Cabbage, cantelope, carrots, celery, corn, cotton, cucumbers, egg plant, fruit trees, grain, hops, lettuce, lima beans, mangoes, melons, milo, mint, onions, peanuts, peppers, pickles, pineapple, pole beans, potatoes, radishes, soybeans, squash, strawberries, sugar beets, sugar cane, tobacco, tomatoes, turnips, watermelon, and miscellaneous truck farm vegetables. Growers in the Imperial and Salinas Valleys require their workers to sue the short handle hoe exclusively for those of the above-listed crops grown in these areas.

Jesus Serrano: Back in New Mexico we thinned and cleaned (weeded) around the plants with a long handle hoe. Cotton was the main plant woe worked with; there were also sugar beets, cabbage, broccoli, tomatoes, and cauliflower.

Juan Lopez: I first started working in 1947 in Robstown, Texas. I was 15 years old at the time, and I used a long handled hoe to thin and weed cotton, maize, onions, radishes, cabbage and spinach, as well as others.

Ramundo Daniel: I have worked in the fields all my life. I worked in Arizona, New Mexico and Texas, cleaning (weeding) and thinning cabbage, cotton, sugar beets and tomato plants, all with a long handle hoe.

Emilio Garcia: In 1956 and 1957 I used the long handle hoe in Weslaco, Texas, thinning cotton. In 1958 I went to Wisconsin and Michigan and used the long hoe thinning beets. I first came to California in 1963 and went to work for Salinas Strawberries, where I saw the short hoe for the first time.

Sebastian Carmon: From 1950 to 1959 I experienced all phases of agriculture from planting to harvesting lettuce, tomatoes, cabbage, sugar beets, okra, and parsley, all with a long handle hoe.

Dr. David Flanagan: After completing medical school at Georgetown University in Washington, D.C., I spent four years specializing in surgery, the last two years of which were spent exclusively in orthopedic surgery at the Cornell University Medical Center in New York city, at the Hospital for Special Surgery. After leaving New York, **I helped to organize and operate a clinic for migrant and seasonal farmworkers in the Imperial Valley of California and it is there that I spent more than two years dealing with the problems of the farmworker. / From the very outset I began to see what I considered an inordinately high percentage of low back conditions. In gathering medical histories on these cases, it became apparent that the type of manual labor performed by these workers was responsible for the development of many symptoms in and about the spine. Further inquiries showed that there was almost invariably a prior history of regular use of the short-handled hoe.** It was during this time that I became convinced that the use of the short handled hoe was an unnecessary contributing factor to the premature degeneration of the structures of the low back region and that if this tool could be modified in some way or eliminated from use, this would contribute considerably to the overall better prognosis of those who already had sustained or who could be expected to sustain injuries or develop symptoms in the low back region. / **My contention is that if the farm workers is able to stand erect using a tool which does not require the hyperflexion of the spine, that much of the pathology which I see at the clinic could be eliminated or delayed by changing the stresses which when applied to this region of the spine create a progressive degeneration or wearing out of the structure of the low back. ... This is a progressive process, a gradual wearing out that everybody goes through. There's no shortcuts. The body just gradually wears out and these structures do not regenerate. It's just part of getting old. Most of us avoid problems in this area. / This however, is not the case for farm workers, especially those using the short hoe. They are subject to unusual stresses and strains with an increasing degeneration or wearing out of these structures. With repeated injury and insult to these structures, the wearing process accelerate and there is no regeneration of these structures and therefore there is no medical cure, merely a patching up or slowing down or an ongoing process of degeneration. The ligaments become stretched, scarred, and lax. The joints become ragged, irregular, and denuded of their smooth articulating surfaces. The discs become more brittle, with cracks and hardening or seepage of the liquid centers, which then bulge and apply pressure on the nearby nerves to the lower extremities. The bones fracture in some cases and these fractures do not heal. /** The results of the degeneration of these structures are seen as distinct clinical entities and are most frequently not the result of a single severe injury, but rather are the result of repeated continuous small injuries to the structures which allows for the development of clinical pathology over a varying period of time. I cannot emphasize enough the importance of the concept that these conditions develop as a result of repeated small injuries over a period of years and usually are not the result of a single severe on-the-job accident. One does not develop arthritis or a "slipped disc", to use the common

term, or develop spondylolisthesis as the result of the particular injury which is often associated with acute onset of symptoms. It is rather that the onset of symptoms in the performance of a certain job is more the case of the straw that broke the camel's back, rather than the sole responsible cause of the symptoms. / I hope that I can explain to you the role that the use of the short hoe has in the development of these clinical conditions, which are commonly seen in the farm workers. I feel that the role is primarily one of position, specifically a malpositioning the body, which through stressing the low back structures allows for continued and repeated insults and injuries which we know are necessary and responsible for the development of clinical symptoms. I think we all realize what a great amount of effort and money has gone into the education of the manual labor force in the proper positioning concerning proper lifting techniques. This campaign of safety with regard to lifting is directed primarily at the protection of the low back structures and has been very successful in decreasing the number of work injuries to the back. As you know, the basis of this education is the maintenance of the back in an erect position with optimal alignment of the spine while using the power of the lower extremities to do the actual lifting. It is obvious that the correct positioning of the spine is important in order to avoid injury and it is the malpositioning of the spine that is necessary in order to use the short hoe. / **One might be tempted to say that the spine may not be in an optimum position when using the short hoe, but there is no weight involved in the work being done, but this is imply not the case. For an average 170 pound male in this position, the muscles are actually lifting more than 90 pounds every second. If you multiply that times the number of seconds in that position during an eight or ten hour day, it represents thousands of pounds daily and it is easy to see that this significant amount of weight is being applied to the spine at the very point where most degeneration occurs and most symptoms develop.** / The pelvis, including the sacrum which is the point at which the spine attached to the weight bearing structures of the lower extremities is fixed like a fulcrum point while forces and motion occur at the adjacent non-fixed point at the lowest part of the spine, specifically the lower lumbar area. And these sheering forces are applied to this portion of the spine while it is almost 90 degrees away from its normal weight-bearing position. Besides this sheering force we should not forget the hundreds of pounds of compressing forces applied horizontally to the vertebrae and discs just to maintain the body in this unusual position. / It is no accident therefore, that symptoms and clinical conditions develop at the junction of the lumbar spine and the sacrum and this is indeed statistically where most disease develops, for example, 90 percent of the disc disease develops at the L-5 S-1 level and this is also true of the development of spondylolisthesis and is generally true of degenerative osteoarthritis as well. / In summing up, you may ask what percentage of this bleak picture is the result of the use of the short hoe. As I have said in the beginning, it would be very difficult or impossible to set a figure, but it is important to recognize that this is one of the contributing factors, but one which is amenable to correction. There is no doubt in my mind that the short hoe plays a very important and significant role in the development of pathology of the low back region and should be considered a health hazard of major proportion of the segment of the population which is required to use this tool.

From the San Francisco Transcript (pages 2-7), Dr. Flanagan states, "Anybody that's been using the short hoe extensively in the field over a ten-year period has got back trouble. Whether or not you're seeing him for tonsillitis or something like that, he still has back problems. He may not be absolutely symptomatic, but that spine is wearing out. He's not going to make it to any retirement age of sixty-five.

Dr. Robert Murphy: Just to summarize what I've said, maintaining the body in a bent position as is necessary when using the short hoe places great stresses on the intervertebral discs or the spine which accelerates the development of degenerative diseases of the spine which occurs secondary to the disc degeneration. AS the disc degenerates, they can no longer tolerate this stress. The stress is transmitted to the bones and to the other joints which is the disease that we call arthritis. The degeneration occurs in the joints and the bones as well as in the intervertebral discs. Performance of even simple activities while in the bent position adds further stress, which are magnified many times over why they would be in an erect position. The result of this is a worker whose spine ages more rapidly than the rest of his body until a point is reached where he is no longer able to work because of low back pain. (El Centro Transcript, pp. 17, 18) ... The results of present day treatment in whatever form are so poor that every effort should be taken towards prevention of these injuries. There's no doubt that the use of the short-handled-hoe not only produces the development of these injuries, not only predisposes to their development, but it actually produces these injuries although it takes a period of time to do so. It is my opinion that the short-handled hoe should be eliminated as an industrial tool, or modified in such a way that the worker can maintain a more erect posture. (El Centro Transcript, pp. 20, 21) ... The thrust of what I'm saying is that the back tends to degenerate anyway in everybody, and anybody who's a farm laborer, even if they use a hoe standing straight up, will have a certain degree of progressive changes in his back which is normal. But what I'm saying is that the short hoe tremendously increases this rate so that the patient loses many years or productivity that he would otherwise not have to lose if he could use a hoe while standing up. (El Centro Transcript, pp. 23)

Dr. Robert Thompson: I think that by far the most common significant complaint that I see in my patient population there at the clinic at Brawley is that of backache, or chronic back strain, or back pain. I say significant because it's the one that really does contribute to many forms of disability, which has already been emphasized. I just wanted to relate to you some of the comments that I frequently encounter in seeing patients. For example, my patients frequently do not specifically complain about pain when they come to see me, but if I ask them does their back hurt, my impression is that almost all of them tell me, yes it hurts sometime maybe not right now, but it has hurt in the past and has bothered me. I have the feeling that they sort of expected this, that this is their way of life to have backaches, so they don't really come to the doctor complaining about it. Another common comment that they make is, no my back doesn't bother me unless I work stooped over. And the most common reason that they do work stooped over is to use the short-handled hoe that they call el cortito. Another comment that I have heard at least on several occasions is that they would rather do any sort of work in the field other than use the short-handled hoe." (El Centro transcript, pg. 29)

Dr. John Radebaugh: The prolonged strain in this unnatural attitude for the spine provides, especially for young people, a separation of the cartilages at a time when these cartilages are still in the developing stage. For older workers the strain over a long period of time produces stretching of the normal ligaments, instability of the back and finally erosion of the cartilages of the bone, factors which are permanent and which may occur at a young age. How can this be prevented? By allowing work to be done in a more erect position as much as possible. Obviously some types of work have to be done in a stooped position, certain picking operations, for example. Yet the hoe or thinning instrument can be made lighter, can have longer handles, and

still be effectively used. Medically this is a simple request and a simple preventative measure. It is one that is accomplished in the East and certainly could be possible in California and Arizona. As a physician with considerable experience with farm workers in California with whom I've had experience show considerably more back problems than those I noted in the East. I believe that this is directly related to the prevalent usage of the short hoe in California. (Salinas Transcript, p. 57)

Dr. Leonard Mizrahi: I am familiar with the implement used by farmworkers called the "short-handled hoe." The postural position the farm laborer must assume to use this type of hoe frequently results in tissue injury and severe back pain. A frequent long-range result is degeneration of the intervertebral discs and supporting ligaments of the spine, resulting in pain, lack of ability to move freely, greatly increased vulnerability to severe injury from minor trauma, and in many cases, complete physical disability."

Dr. F. R. Williams: It is a well-known fact that when one is bent forward, the weight-bearing line (which normally is transmitted through the lumbar vertebrae) is thrown forward of the lumbar vertebrae causing a shearing of the lumbar vertebrae resulting in a stress on the surrounding soft tissues (muscles and ligaments) with resultant pain which can be permanent. This is common knowledge and I suspect any orthopedist would confirm this opinion. / It is, therefore, my opinion that bending over doing farm labor work is potentially very harmful and damaging to the worker and it would be beneficial to those workers who are using a short-handled hoe to be given a long-handled hoe to do their work.

Dr. Jerome Lackner: There is no question in my mind that the use of this barbaric instrument, which is designed to increase the accuracy of hoeing and weeding at the expense of human health, is a physical, emotional, and spiritual detriment to all those who much earn their living by its use.

Dr. David Brooks: I am familiar with the tool called the short-handled hoe which is commonly used in agricultural work. I am likewise familiar with the postural position the farmworkers generally assumes when using such a hoe. I can unequivocally say that such use of this hoe will often cause tissue injury and severe back pain, and later may result in degeneration of the intervertebral discs and other supporting elements of the spine, thereby causing pain, limitation of motion, increased vulnerability to severe injury from minor trauma, and in many cases, complete physical disability.

Dr. Amalia Katsigeanis: I have been asked to comment upon the relationship of protracted, regular use of the short-handled hoe, and the development of disabling low back conditions, most specifically and particularly in the farmworkers population, the group most affected. It does seem logically feasible to relate the chronic postural strains induced by constantly working with this tool, to the development of painful and disabling symptoms in the lower back. I think Dr. David Flanagan's dissertation on the subject is an admirably succinct and knowledgeable one, and one with which I am in complete agreement.

Labor Code 6500 provides the Division of Industrial Safety with power to adopt safety orders to further the aforementioned statutes. Pursuant to this authority, the Division has adopted 3316 of Title 8 of the Administrative Code. That section specifically prohibits employers from requiring employees to use unsafe hand tools. There can be no doubt in light of the medical evidence presented to the Board that the short handle hoe is unsafe in that its use is the direct cause of permanently disabling back problems.

(pg. 33)

Pursuant to 6500, the Division has adopted a general safety order governing the use of hand tools. The order provides that, "Hand tools shall be kept in good condition and be safely stored. Unsafe hand tools shall not be used." 8 Admin. Code 3316 (Emphasis added)

Petition for Rehearing

Dr. Flanagan: Something has come up in the last couple of days that distressed me, and I think just a couple of minutes could clarify what I think is a very important point. I've gotten very distressed about the fact that in the last couple of days this issue of compensation has come up. I think in El Centro it was clarified by the injury itself, using the short hoe, is not a reportable injury because there's no incident. There's no acute on-the-job accident. It's just an accumulation so there's nothing to report. (Salinas Transcript, p. 62)

Dr. Murphy: Whereas the body weight of a worker and the load he carried are important determinants to the stress placed on the spine, the body position is much more important, especially forward bending. Not only do stresses increase the further forward you bend, but the forces created are of such magnitude as to approach the failing point of the intervertebral discs. ... Degeneration of the vertebral discs is a natural process that occurs in all of us as we get older, but is greatly accelerated by poor posture, particularly marked forward bending because not only are the stresses multiplied greatly the farther one bends over, but these forces are concentrated to the posterior aspect of the annulus fibrosis which is where most disc herniations occur... There is no doubt that the body position necessary to use the short-handle hoe placed tremendous stresses on the lumbar intervertebral discs which result in premature aging of the spine.

On May 3, 1973, three members of the Board visited a field owned by the largest lettuce grower in the Salinas Valley, wherein workers were using the short hoe. They visited the field with representatives of Interharvest. Mr. White noted in a memo that "we were all watching carefully for any evidence of discomfiture or even low morale, such as expressions or actions, or whatever. I observed literally none. Note that I visited two fields and the same situation existed in both." It is incredible that board members would go to a field with grower representative and expect to see an complaint or indication of low morale by a worker. Obviously, the Board has failed to consider how long a worker could expect to retain his job should he indicate dissatisfaction with his work in the presence of grower representatives. Petitioners suggest that the Board themselves go spend a day in the field using the short hoe and then determine whether or not it causes "discomfiture."

Reply to Amicus Curiae Brief of Bud Antle, Inc.

Dr. John Radebaugh: While in the Rochester area, I encountered a number of problems among farmworkers, but few back problems among this particular group. Yet, upon arrival in the Imperial Valley, I was impressed with the number of patients who at a young age exhibited significant spinal pathology. Many of these workers were in their thirty's and forty's and most had given a history of working with the short hoe. (Salinas Transcript, p. 55, line 25; p. 56, line 3)

Exhibit A

I, Jose Romero, hereby declare:

I first worked with the cortito in Soledad, California in 1962. I've learned that it is the most difficult and lowest paid job in the state.

We farm workers who make our living out working in the fields find ourselves having to return to work every day with backs, necks, and legs that still hurt from working the day before.

I do not wish to work with a short handle. It is not a human type of job. No one should be expected to work bending down for that length of time. Short handle hoe work is too hard to do. I suggest very strongly to allow the farm workers to use long handles. The short handle ruins the farm worker's back, and before he is 50 he is so disabled that he must go on welfare.

I am 23 years old and have 2 children.

I swear under the penalty of perjury that the foregoing is true and correct.

Dated: March 20, 1970.

Exhibit B

I, Elijio De Haro, hereby declare:

I first worked with the cortito in 1965 in Calexico, California. I had worked in New Mexico since 1950 with a long handle, thinning and weeding cotton. I could very easily work 10 hours a day with a long handle. We migrated to California because of higher wages and more work available. When I work with the cortito I find it very hard to work 8 hours. I come home with so much pain, sometimes rubbing and hot patches don't help. It does not matter how slowly the boss allows us to work, because it is still very hard on the back, neck, and things to work bending down so close to the ground. I believe if the grower would bring 20 hoes with long handles and 20 short handled, no one would pick up the short handle hoe. Only a man out of his mind would choose a short handle. I want my wife and children, who are willing to help me to be able to work, but the only way I will allow it is with a long handle. Please don't force me to ruin my children's backs, as I have done against my will with mine. Soon all farm workers will refuse to work for any grower who is deliberately killing his workers with short handle hoes. I am 41 years old and have 7 children.

I swear under the penalty of perjury that the foregoing is true and correct.

Dated: March 20, 1970

Exhibit C

I, Jesus Serrano, hereby declare:

I started working in the fields when I was 13 years old. Back in New Mexico we thinned and cleaned around the plants with a long handle hoe. Cotton was the main plant we worked

with; there were also sugar beets, cabbage, broccoli, tomatoes and cauliflower. My folks later migrated to California in search of better jobs and better pay.

After working for several years with the cortito I was hired as a crew pusher (mayordomo) in 1958. I was a crew pusher for 10 years. Starting in 1968 I became disabled, and now I can no longer bend over.

During my working years my friends used to make fun of me because of the way I walked, bent forward like a gorilla, which is caused by working with a cortito. I consider myself an experienced man with both hoes, short and long. Being a crew pusher I found out that the growers believe that they can get more work out of the people by only allowing hoes with a short handle. The grower has more control over the workers when he has them working with a short-handled hoe, because he can see they are resting when they stand up.

I swear under the penalty of perjury that the foregoing is true and correct.
Dated: March 20, 1970

Exhibit D

I, Juan Lopez, being duly sworn, do hereby depose and say:

I first started working in 1937 in Robstown, Texas, Nueces County. I was 15 years old at the time, and I used a long-handled hoe to thin and weed cotton, maize, onions, radishes, cabbage and spinach, as well as others. I migrated to Idaho, Washington and Oregon, in 1961, and went back to Texas every winter, because there was no work available up north and it was too expensive to live. In Texas there was at least a little work, and it was cheaper to live.

I was heading for Washington in 1965 when I met a friend on the way who told me that in California they were paying \$1.40 an hour just to clean around the row crops. What he didn't tell me was that the hoe used in this work had a short handle. When I arrived here, I couldn't find a place to live, so I had to live in my car. I would have gone back to Texas or on ahead to Washington, but I had no money left. I worked in short handle hoe jobs from then until late in 1966, when I hurt my back. I became very ill because of my back problems, and I was in so much pain that I had to go to the doctor, who told me that my back was injured. Since 1966 we have had to go to Idaho and Washington every year during the short handle hoe season, because there they use long handle hoes.

Dated: March 25, 1970

Exhibit E

I, Sebastian Carmona, hereby declare:

I first came to the United States in 1950 and worked in the fields around Santa Rosa, Texas, until 1959. After about two years I was promoted to crew-pusher. From 1950 to 1959 I experienced all phases of agriculture from planting to harvesting lettuce, tomatoes, cabbage, sugar beets, okra and parsley, all with a long handle hoe.

I later migrated to Soledad, California, in 1959, and started working for Salinas Strawberries as a foreman. I found myself obligated to make my people use short handle hoes. I could see no reason for using the short handle, so I asked the growers. They told me I could either accept things the way they were or lose my job, and that went for my people in the fields, too. After six years with Salinas strawberries, mostly crew-pushing in thinning and weeding, I

starting asking questions again and was told it is easier to see who's not working because they stand up while everyone else is bending over.

In 1966 I went to work for Bruce's church; against I questioned the use of the short handle hoe, and again my job and the jobs of my people were threatened.

As the years went by I began to realize that I wasn't walking as erect as before. I definitely feel that using the short handle hoe was responsible for weakening me to the point that I can no longer sit or stand straight as I once did. I am 46 years old.

I swear under the penalty of perjury that the foregoing is true and correct.

Dated: March 20, 1970

Exhibit F

I, Ramundo Daniel, hereby declare:

I have worked in the fields all my life. I worked in Arizona, New Mexico, and Texas, cleaning and thinning cabbage, cotton, sugar beets and tomato plants, all with a long handle hoe.

I came to the Salinas Valley in California in 1966. All of the thinning and weeding is down with the short handle hoe, as it is easier to work with. Working with a hoe with a short handle tired your body so much more quickly, because of the bending-down position. I am 52 years old.

I swear under the penalty of perjury that the foregoing is true and correct.

Dated: March 25, 1970

Exhibit G

I, Emilio Garcia, hereby declare:

In 1956 and 1957 I used the long hoe in Weslaco, Texas, thinning cotton. In 1958 I went to Wisconsin and Michigan and used the long hoe thinning beats.

I first came to California in 1963 and went to work for Salinas Strawberries, where I saw the short hoe for the first time. I even looked around to see if everybody had the same length handle, and they did.

The foremen showed us how to use the hoe, and for the first days I went home with fever and swollen eyes on account of the stooped position in which I had to work. That's when I decided to leave the short hoe and do irrigating instead, and that is what I do until today.

I think that somebody should abolish it, and if there are people who don't want to abolish it, I suggest they try working a day with a short hoe.

I am 47 years old, married, and I have 8 children.

I swear under the penalty of perjury that the foregoing is true and correct.

Dated: March 25, 1970

Exhibit H

I, Bart Goldie, hereby declare:

I am presently a law student at Golden Gate University. While doing undergraduate work at the University of California at Santa Cruz, I chose as the topic for my thesis, a study of the incidence of permanently disabling back problems among farmworkers; comparing an area where the short handle hoe is employed with an area where it is not employed.

At the time I chose the topic, I already had considerable training in statistics. However, I nevertheless began the study by conferring with the Survey Research Center at the University of California at Berkeley in order to ascertain exactly what steps I should follow to, eliminate bias in the study. I then developed a series of questions with the assistance of the Research Center and Dr. William Friedland at the University of California at Santa Cruz. Once a set of questions was chosen, a pre-test was conducted. Following the pre-test, the questionnaire was revised in a further attempt to obtain objective data.

The actual survey was conducted over a period of several months. Respondents to the questionnaire were chosen at random. They were interviewed by myself and by interviewers who spoke Spanish. The interpreters had been thoroughly trained in the survey taking technique. The results were computerized and analyzed for internal validity.

The results are as follows: Three hundred and eighty one persons were interviewed. Of these, 191 were interviewed in Soledad and 190 were interviewed in Orange Cove. (Soledad is located in Southern Monterey County. Orange Cove is located in Northeast Tulare County). Of those persons interviewed in Soledad, 30, or 15.6% of those interviewed, had permanently disabling back problems. In Orange Cove, 7, or 3.7% of those interviewed, had permanently disabling back problems. The probability of this occurring by chance is one in . If age of the respondents is considered, the probability is much less since the average age of those interviewed in Soledad was almost three years less than that in Orange Cove. The average age in Soledad was 45.5 years in Orange Cove was 48.3 years.

In addition to inquiring into the incidence of permanently disabling back problems. In Soledad, 65.2 percent of those who did not have permanently disabling back problems did have back pain during the season in which the short handle hoe was used. In Orange Cove, of those who did not have permanently disabling back problems, only 11.5 percent ever had back pain. It is safe to conclude from my research that the incidence of back problems among farmworkers in Soledad is much greater than in Orange Cove.

I declare under penalty of perjury that the foregoing is true and correct.
Dated: September 20, 1972

Sample questionnaire follows

Exhibit J

I, David F. Flanagan, M.D., hereby declare:

I am a physician and have been trained in the field of orthopedic surgery.

I have dealt almost exclusively with a farm worker population for the last year and a half and have seen an inordinately high number of patients with back complaints which range from premature, degenerative osteoarthritis of the lumbar spine to herniated, degenerative disc disease in the lumbar spine. There is no doubt that the premature and extensive nature of the degenerative changes in and about the spine in a farm worker population, that I have worked with, is due to the positional requirements of the type of work that the patient population performs. In particular, there is no doubt that the use of the short handled hoe has contributed significantly to the degeneration of the tissues in the lower back area and that the use of such an instrument represents a chronic hazard to the farm worker.

The short handled hoe therefore represents not only a health hazard but an economic hazard for the farm worker population as well, inasmuch as its use will lead to a cumulative

degeneration of the back, resulting in early withdrawal from agricultural occupation and diminished longevity of the farm worker in his chosen field of occupation with the resultant financial loss and inability to support his family and very frequently culminating in the farm worker family becoming dependent on the State for support through either Social Security, Disability or Welfare aid.

I declare, under penalty of perjury, that the foregoing statement is true to the best of my knowledge.

Dated: May 9, 1972

Exhibit K

I, Leonard J. Mizrahi, M.D., hereby declare:

I am a physician licensed to practice in the State of California. I have practiced for six years.

I am familiar with the implement used by farm laborers called the "short handled hoe". The postural position the farm laborers must assume to use this type of hoe frequently results in tissue injury and severe back pain. A frequent long-range result is degeneration of the intervertebral discs and supporting ligaments of the spine, resulting in pain, lack of ability to move freely, greatly increased vulnerability to severe injury from minor trauma and, in many cases, complete physical disability.

I declare, under penalty of perjury, that the foregoing is true and correct.

Dated: February 8, 1971

Exhibit L

To whom it may concern:

I have been asked to write a letter speaking to the point whether bending over doing farm labor work is harmful. It is a well-known fact that when one is bent forward the weight-bearing line (which normally is transmitted through the lumbar vertebrae) is thrown forward of the lumbar vertebrae causing a shearing of the lumbar vertebrae resulting in a stress on the surrounding soft tissues (muscles and ligaments) with resultant pain which can be permanent. This is common knowledge and I suspect any orthopedist would confirm this opinion.

It is, therefore, my opinion that bending over doing farm labor work is potentially very harmful and damaging to the workers and it would be beneficial to those workers who are suing a short-handled hoe to be given long-handled hoes to do their work.

Signed,

F. R. Williams, M.D.

Dated: December 18, 1970

Exhibit M

I, David Brooks, M.D., hereby declare that I am a physician, a very good one, licensed to practice medicine in the State of California. I have been a doctor for eight years, and in private practice for three years. I care for some twenty thousand patients, most of whom are farmworkers. I have had special training in internal medicine but lack board eligibility.

I am familiar with the tool called the short-handled hoe which is commonly used in agricultural work. I am likewise familiar with the postural position the farmworker generally assumes when using such a hoe. I can unequivocally say that such use of this hoe will often cause tissue injury and severe back pain, and later may result in degeneration of the intervertebral discs and other supporting elements of the spine, thereby causing pain, limitation of motion, increased vulnerability to severe injury from minor trauma, and in many cases, complete physical disability.

I declare under penalty of perjury that the foregoing is true and correct.

Dated: August 20, 1970

Exhibit N

Dear Mr. Jourdane:

I have read with interest your description of the physiopathological processes that can effect a human low back, particularly in the region of the lumbosacral joint, partially in reference to laborers doing field work with a short handled hoe. Your abstract, in summary, is from the book "Low Back Pain Syndrome" by Rene Cailleit, M.D. published by F. A. Davis Company in 1968.

I am familiar with this book and its author and it is my opinion that your summary quite accurately presents the scientific facts and medical facts as presented.

Very truly yours,

C. Arthur Spaulding, Jr., M.D.

Dated: April 25, 1972

Exhibit P

I, Leo Breedlove, hereby declare:

I am a farm labor contractor and the operator of Newman Labor Camp in Newman, California. For twenty years I have supervised crews of farm workers in the San Joaquin Valley who have used the short handle hoe to weed and thin tomatoes and sugar beets.

I have heard the many complaints of the people who used the short handle hoe and have seen the misery it causes those who are forced to work with it year after year. The short handle hoe requires the employee to bend over at the waist and remain in that position for long periods of time. This posture becomes extremely painful on the back and legs and causes fatigue that slows the workers down to an inefficient and unproductive pace.

About four years ago I began to supply long handle hoes to the employees of my labor camp. The reaction to the use of the long handle hoe by both the workers and the growers was very favorable. Because the long handle hoe is used while in a standing position, the workers get less tired and their backs don't pain them. All of the growers that my employees work for have said the long handle hoes does a good job on their crops and allows the workers to be more productive.

I, as well as every major labor contractor in Stanislaus County, provide only long handle hoes. In fact, I cannot even give away the short handle hoes that I still have. I feel the short handle hoe is an unnecessary and hazardous tool and should not be used by people who must

work long days in the fields. I also believe the long handle hoe is better because it allows the workers to do as good a job for a longer period of time without damaging their backs.

I declare, under penalty of perjury, that the foregoing is true and correct.

Dated: September 14, 1972

Exhibit Q

I, Jerome A. Lackner, M.D., hereby declare:

I am a physician, licensed to practice in the State of California. I have practiced for twelve (12) years. My practice is devoted to internal medicine. For over five (5) years I practiced medicine intermittently in Delano, California. During those five (5) years my patients were the farmworkers of that agricultural area.

I am thus quite familiar with the tool used in agricultural work called the "short-handled hoe". I am likewise familiar with the postural position the farmworker must be in to use such a hoe.

There is no question in my mind that the use of this barbaric instrument, which is designed to increase the accuracy of hoeing and weeding at the expense of human health, is a physical, emotional, and spiritual detriment to all those who must earn their living by its use.

Furthermore, there is no question in my mind that the severity and frequency of the back disease among field workers exceeds that in other populations. The causes for this excessive frequency and severity are multiple and include poor nutrition and long hours among other factors. Prominent among these factors is the use of the "short-handled hoe" and other forms of prolonged stooped labor.

Any reader of this declaration who doubts the veracity of these observations is invited to test the effects of this instrument of torture on his own body by spending six to ten hours in its use. I am certain that if those who have the power to set health standards and working conditions for farmworkers would spend a day working in the fields with such a hoe in their hands we would see the speedy abolition of this insalubrious anachronism.

I declare under penalty of perjury that the foregoing is true and correct.

Dated: August 23, 1971