

JUL 24 1991

Reading Citations

(Prepared by: Allie Fields)

EPA Office of Pesticide Programs

1. "News From the Field: Nearly 200 Books Available on Farmworkers"
AFOP. Washington Newslines, May 9, 1991 (page 14-15).

Jerry Kapsner, a senior at Gallaudet University, volunteered as an AFOP staff intern for 3 months to specifically research child labor in agriculture and found very little documentation on child labor in the fields. Some books focused on children of migrant workers with emphasis on the neglect and abuse of children, the difficulties of educating migrant children and anecdotes from people who testified that they started work at age ten or earlier. There were no hard statistics on the number of children working in the fields.

Therefore the project direction changed to focus more on finding sources of books and analyzing the geographic scope of those books, the date of publication, and the subject- whether the book was about health, education, housing, etc. The 3 top factors were subject, year of publication, and scope.

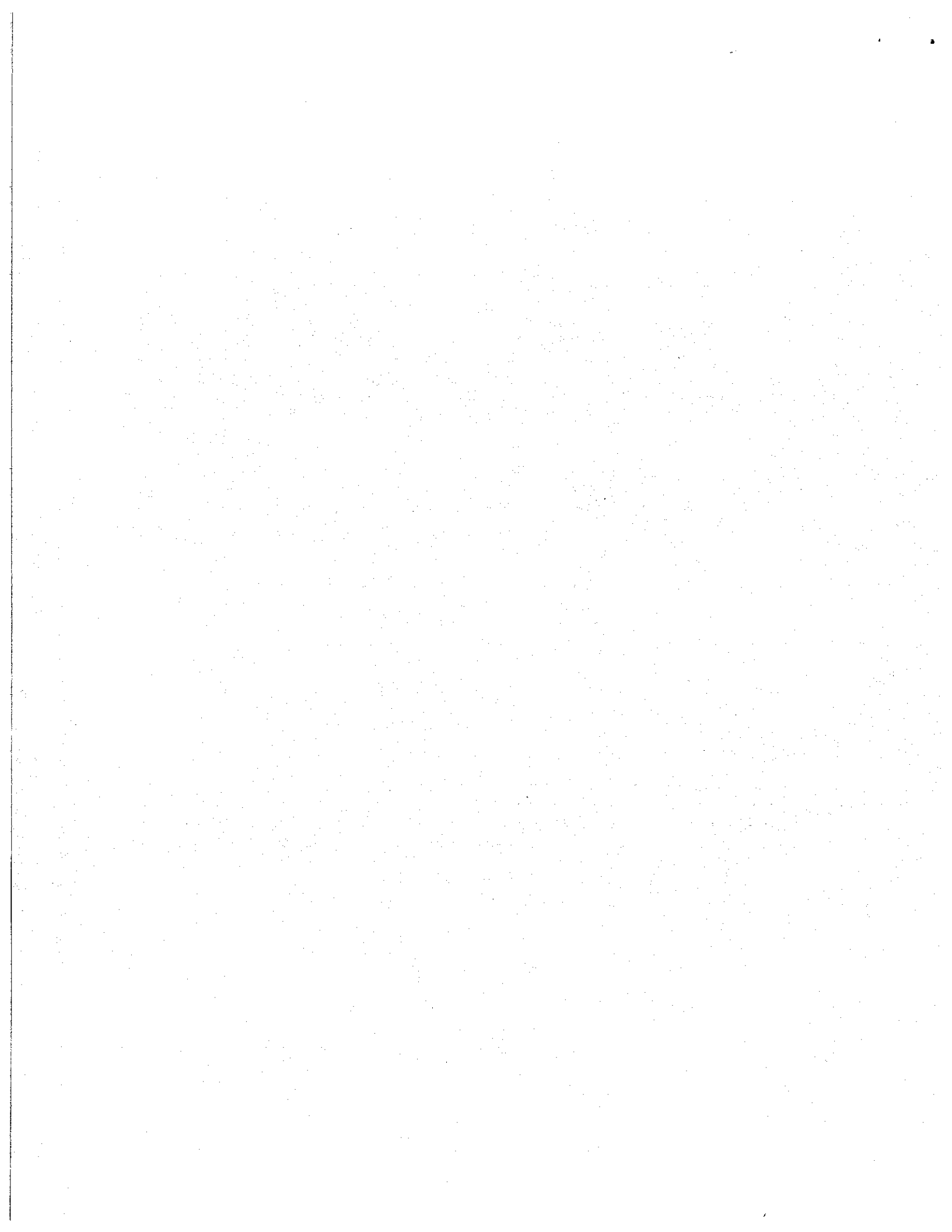
19%	were published between	1985 and 1991
23%	"	1980 and 1984
27%	"	1975 and 1979
19%	"	1970 and 1974

RECOMMENDATION

More basic data on farmworkers is needed on all facets of farmworker issues including child labor, housing, demographics, labor standards, health, and the effect of agricultural technology. More statistics are needed to convince lawmakers of the need to pass more protective laws.

Resource ID#: 2374

Reading Citations



2. "Fatal and Non-Fatal Farm Injuries to Children and Adolescents in the United States." Frederick P. Rivara, MD, MPH (from the Department of Pediatrics and Community Medicine, University of Tennessee Center for the Health Sciences and LeBonheu Children's Medical Center, Memphis). Pediatrics Vol. 76 No. 4 Oct '85.

Abstract:

Agriculture is the second most dangerous occupation in the United States, and children make up a significant portion of the work force. This study presented national data on the morbidity and mortality due to farm injuries to children and adolescents <19 yrs of age. Data sources used were:

1) National Center for Health Statistics, 1979-1981 Mortality Statistics.

Data based on information received by NCHS from all states. The District of Columbia, and the independent registration area of New York City. The data studied included all fatalities with external cause of death that occurred on a farm; including nontransport fatalities only, because transport fatalities cannot be separated as to place of injury. Data for individuals 19 years of age or younger were included in the analysis.

2) National Electronic Injury Surveillance System 1979-1983. Farm injuries treated in hospital emergency rooms located in the United States. (CPSC)

Data on injuries involving involving farm products occurring to individuals 19 yrs of age or less during the years 1979 to 1983: The data indicate morbidity due to farm-related products as contrasted with the mortality data.

3) Death Certificate Data Consumer Product Safety Commission. Farm deaths investigations.

The CPSC operates a death certificate data base which enumerates product-related deaths in the United States. When deaths occur within the designated ICDA-9 codes, death certificates are submitted to the CPSC by the 50 states, the District of Columbia, New York City, Puerto Rico, and the Virgin Islands. Usefulness in examining relative causes of death.

The most common cause of fatal and nonfatal injury is farm machinery. Tractors accounted for 1/2 of these machinery-related deaths, followed by farm wagons, combines, forklifts, hay processing equipment, tillage equipment.

Despite the importance of the problem of child farm labor and its resultant injuries, no studies document the scope of the injury problem. The study presented national data on the morbidity and mortality of farm injuries to children in the US.

4) The 1980 Census

Defines a farm: "all persons living in rural territories or places which had or normally would have had, sales of agricultural products of \$1,000 or more during the reporting year."

The populations used in the computation rates were based on the April 1, 1980, census enumeration. In that census, individuals with Hispanic surnames were included as "whites" or in the "other" category.

Results

NCHS:

Injuries involving machinery - the vast majority was agricultural equipment, the cause of death in 1/3 of all children but nearly 1/2 of the deaths to those younger than 10 yrs of age.

Drownings - surprisely common cause of death, especially to the young age groups.

Suffocation or asphyxiation - responsible for 7.0% of the deaths in the 5-9 yr old group and 12.5% in the 10-14 yr old age group

Firearms

Farm animals

Poisoning - was the cause of death in less than 1% of cases.

CPSC Death Certificate Data:

The CPSC death certificate file almost exclusively concerned with farm equipment-related deaths, which accounted for 87.5% of the childhood deaths. Data is useful in describing the nature of the injury resulting in death, data absent from the NCHS file. Head injuries- single most common cause of fatality, particularly common among infants and preschool children (24.1% of the deaths in this age group.

NEISS:

Involved farm-related products occuring to children and adolescents 0 to 19 yrs of age. As with fatalities, the female rate peaked among children 5-9 yrs old and then decreased thereafter.

Boys increased steadily with age

From the nature of the injuries, it appears that nearly all were due to some type of mechanical trauma. Amputations, avulsion, and crush injuries were not uncommon in the older age groups.

* Burns and poisonings were relatively infrequent causes of emergency room visits.

Lacerations and punctures were the most common type of injury seen at all ages except for the oldest age group, in which contusions, abrasions, and hematomas were more commonly seen.

Injuries most commonly involved the extremities, both upper and lower.

The Department of Labor does not collect any data on children less than 14 yrs old and little data on those less than 16 yrs old.

The NEISS data base continues to be the only accurate estimate of nonfatal, nonmotor vehicle injuries in the U.S. It is also limited in that it focuses only on product-related injuries and neglects such areas as injuries due to farm animals, drownings in natural bodies of water, falls unrelated to equipment, and many others.

The data also do not permit comparison of rates of injury between migrants and residential farm workers. The peculiar coding of race by the Census Bureau allows people of Hispanic descent to be classified as white or Hispanic. No data are available from death certificates to allow comparison of place of death with place of residence, which might be different for migrants but the same for farm residents.

Poisonings accounted for less than 1% of deaths and only 1.5% of injuries reported to NEISS. Non-fatal poisonings may be seriously underreported in NEISS.

Childhood deaths from poisonings have decreased fourfold in the last 20 yrs alone.

3. The Interagency Agreement Between Department of Labor/Employment Standards Administration and the Environmental Protection Agency/Office of Pesticide Programs

Scope of Work:

The agreement provided the framework for mutual cooperation in

- the development of standards for field re-entry;
- in the design and conduct studies to obtain data on the effects of pesticides on youth employed in agriculture;
- in the development and distribution of informational materials to farmworker populations on pesticides; and
- the development of cooperative enforcement programs.

Effective period: 5 yrs 4/1/80 to 9/30/85

Results:

BACKGROUND

Safe field re-entry times for children have not been developed.

States that there are strong indications that, because of the many differences including the smaller size of children, their metabolic rate, higher gastrointestinal absorption, and greater probability of eating crop and accidental ingestion while harvesting, children are more likely to be affected by pesticides than adults.

Reentry standards developed on the basis of estimated adult tolerances to pesticide exposure. Do not take children into account.

Epidemiologic information on children is sparse. Clinical data are confined to acute poisonings and are not a suitable basis for evaluation of low dose effects on children. Therefore it cannot be said what is or is not a safe standard for children simply because there is no data which to base such an estimation and the factors involved are much more complex than for an adult.

One of the requirements for issuing waivers under the child labor provisions of the Fair Labor Standards Act is that the level and type of pesticides and other chemicals used would not have an adverse effect on the health or well-being of 10 and 11 yr old hand harvesters. Recommendations were adopted by the Employment Standards Administration with respect to the hand harvesting of strawberries and potatoes by 10 and 11 yr olds, the effects of pesticides on the health of minors under 16 yrs of age and scientifically supportable re-entry times for these age groups is needed.

Farmworker Justice Fund

4. "Special Report: A Farmworker Perspective on Pesticides"
Farmworker Justice News: Vol. 4 No. 2 Summer 1990

1. Farmworkers handle pesticide-laden crops, use water tainted by pesticides, live in labor camps near the fields, are too often get sprayed in the fields. These exposures present risks of cancer, birth defects, miscarriages, skin diseases, other serious illnesses.

2. Farmworkers are often the last to be considered when the public and the government think about the dangers of pesticides.

5. "Farmworkers and the Health Risks of Pesticides", Wilk, Valerie.

1. November 15, 1989, Ruskin Florida scores of poisoned workers being treated at the Ruskin Community and Migrant Health center. 13 of the 85 fws were severely poisoned and transferred to area hospitals.

CAUSE: Farmworkers had been sent into cauliflower fields treated with phosdrin, a highly toxic insecticide, only 19 hours after the fields had been sprayed. The legal reentry time set by the EPA for unprotected workers is 48 hours.

EFFECTS: 5 months after poisoning, a number of the workers exhibited symptoms from headaches and chronic fatigue to more serious nervous system problems. One of the exposed pregnant workers suffered a miscarriage.

2. Human health studies and case reports published in the United States and abroad have linked pesticide exposure to a variety of chronic health effects.

These include: cancers such as leukemia, NonHodgkin's lymphoma (a lymph node cancer), and multiple myeloma (bone cancer) in adults, and leukemia and brain cancer in children; reproductive effects such as birth defects, spontaneous abortion, sterility, and menstrual dysfunction; live and kidney dysfunction; nervous system effects including problems with motor coordination and thought processes, anxiety, and depression; and abnormalities in the immune system.

"There have been no long-term health studies of farmworkers to document their health status and exposure to pesticides. In 1990, researchers led by Marion Moses, M.D., are developing such a data base in a study of 400 farmworkers and their families--union members of the Farm Labor Organizing Committee--who migrate from Florida to Ohio."

3. Sometimes irrigation ditch water, contaminated with pesticides and fertilizers, is the only source of water for workers. Migrant farmworkers often live in labor camps out in the fields, and when the crops are sprayed, pesticides drift over their housing.

4. The General Accounting Office reported to Congress in 1989 that EPA had not completed a final assessment on ANY pesticide, though they were close on 3.

6. "Congressional Hearings on Children and Toxics". (10/3/90, information being sent)

1. The Select Committee on Children, Youth, and Families of the U.S. House of Representatives held two hearings in September about children's exposure to toxics, including lead and pesticides. Several witnesses discussed farmworker children's exposure to pesticides. Congressman George Miller (D-CA) chairs the committee.

The committee wants to hear from farmworker families about their experiences and concerns about their children's exposure to pesticides. Send written testimony to the:

Select Committee on Children/Youth/Families
U.S. House of Representatives
Washington, D.C. 20515

(Felicia Kornbluh on committee staff 202-226-7660, add't info).

Publication reprints request made on October 3, 1990 and received.

7. "Where Work is Hazardous to Your Health: A Survey of Occupational Injuries and Field Sanitation Among North Carolina Farmworkers," April 1990. Sweeney, M.A. and Ciesielski, S.

Researchers interviewed 287 farmworkers during the 1989 growing season in seven counties in eastern North Carolina about workplace accidents and availability of field sanitation facilities.

8. "Children at Work: A Five-Part Series on Child Labor in the United States." Bruce D. Butterfield. Boston Globe, April 22-26, 1990.

The series covered both urban and rural child labor. One article focuses on farmworker children and pesticide exposure; another highlights farm accidents to children.

1. Work by 8-year olds is outlawed. But it is a prohibition rarely enforced.

2. And growers and the labor contractors they rely on to fill commercial farms with workers do not often turn the labor away. "El solamente esta ayudando," the workers say of the children. He is only helping.

3. And from the dilapidated trailers and shacks tucked amid the strawberry fields of central Florida to the labor camps of California's rich San Joaquin Valley, the children of farm laborers are exploited workers too.

4. "...nearly all children of farm workers are toiling in the fields before they reach their teens - the largest single child labor force in the country."

5. "Often they work, play and even live in fields sprayed with a range of toxic pesticides."

6. Often the children sleep with their families under the trees at night or in unheated trailers and shacks erected by growers.

7. Researchers for Mount Sinai Medical Center (New York) found migrant children as young as 8 yrs old working the fields with their parents. During peak harvest times, researchers said children reported working as long as 14 hours some days.

8. There is an estimated 1 million to 1.5 million farm worker children in America. This estimate came from farm worker agencies. The Census Bureau has few reliable statistics on migrants. They have no data on how many migrant children work to pick the nation's crops. Neither does the Department of Agriculture.

9. In 1966, the federal Fair Labor Standards Act was extended to cover children who work on commercial farms. It prohibits work by migrants children under the age of 12. There was a step:

- more money directed to farm worker schooling and migrant student tracking system was created

- adopted rules demanding portable bathrooms in the fields.

- a network of rural health clinics and government funded labor camps was extended.

But through the 1980's - the period of Reagan-led cutbacks in government social programs.

10. The typical earnings of a farm worker are between \$5,000 and \$6,000 a yr.

11. Federal inspections have lagged. In 1989, the US Department of Labor recorded just 129 "complaints actions" involving child labor among farm workers.

9. "Maternal and Child Health Hazards: Children in Agriculture - Occupational Hazards to Children." The Occupational Health of Migrant and Seasonal Farmworkers in the United States."
Valerie A. Wilk. Farmworker Justice Fund, Inc.

1. Children are particularly at risk for pesticide poisoning because they weigh less than adults and have faster metabolism; thus, it takes less time and less pesticide to poison them.

2. Little is known about the long-term effects of chronic pesticide exposure on children, such as the effects on onset of puberty, reproductive health, and the immune system.

3. Pesticide exposure must be considered when examining data on rare health conditions among farmworker children.

4. Clement Associates, Inc., Washington, D.C., made recommendations to the U.S. Department of Labor regarding minimum reentry times for 10 and 11 year olds working in potatoes and strawberries. These intervals ranged from 2-120 days (Clement Associates, Inc., 1979); they were adopted into regulations by the Department of Labor but were ruled illegal by the U.S. Court of Appeals for the D.C. Circuit in 1980 in National Association of Farmworker Organizations v. Marshall, 628 F.2d 604.

5. With other debilitating health problems make children yet more vulnerable to the effects of pesticides and heat stress.

6. Data from the Migrant Student Record Transfer System (Education Commission of the States, 1979) for a two-year period revealed that 71% of all deaths among migrant farmworker children were from accidents: of these, 44% were due to automobile accidents and 3% to farm accidents.

7. Research Needs:

There are numerous gaps in our knowledge of the health status of farmworker children. Of particular concern are the chronic effects of pesticide exposure.

10. "Migrant Health Newslines." Clinical supplement May/June 1990 on child labor in agriculture.

The supplement included an issues paper on child labor by the Migrant Clinicians Network, and two articles by clinicians: "The Health Hazards of Agricultural Child Labor" by Pollack and "Farm Injuries to Children in the United States" by Rivara. Outlined the

health hazards and labor law requirements for children in farming and presented preliminary data about migrant farmworker children' exposure to pesticides from their ongoing study of child labor in New York State. Dr. Rivara gave data on farm accidents among children and fatalities from farm machinery.

1. According to provisional data from the U.S. Department of Labor, more than 4 million children in the United States were legally employed in 1988.

2. Illegal child labor is also widespread.

3. According to the law, however, no child under age 16 working on a non-family farm is allowed to handle or apply Category I or II pesticides and herbicides (i.e., those most acutely toxic).

4. Agricultural work poses the same hazards for children as for adults. Small physical size and inexperience may superimpose additional risks for young workers.

5. The risks of injury, illness and toxic exposure associated with child labor appear to pose a significant public health problem, but they have only begun to be explored.

6. Cogbill et al point out that federal and state laws required all 14 and 15-yr olds hired a farm employees to have completed a safety education course prior to operating machinery, but they add that "these regulations do not apply to children working on family farms."

7. Even less is known about the incidence and severity of illness than about injury in working children.

8. Although it is recognized that young workers are exposed occupationally to substances known to be hazardous to adults, including pesticides in agriculture, almost no studies have been done to explore the possibility that young workers may have heightened susceptibility to these agents due to metabolic differences and increased body surface area compared to adults.

9. Nor have possible risks in regard to causation of diseases of long latency been explored (a matter of concern given that young workers have many more years of potential exposure).

10. For migrant farmworker children who may spend early years playing in the same fields where they later work, this is a matter of even more grave concern.

11. Because acute pesticide poisoning is seen relatively rarely in the U.S. compared to Central America and other parts of the world, pesticide exposure tends to be an invisible issue.

12. Recent interviews conducted with Mexican-American migrant farmworker children who worked in New York State,

- o 48% worked in fields still wet with pesticides
- o 36% had been sprayed either directly or indirectly by drift while working in fields or orchards and one said he was sprayed while eating.
- o the camps where 34% of the children lived had been sprayed in the process of spraying nearby fields or orchards
- o People from the the eastern shore of Virginia have told similar stories

11. "Migrant Clinician Network Issues Paper on Child Labor in Agriculture." Migrant Health Clinical Supplement:

Hazardous work is prohibited in farming only until the age of 16 (compared to age 18 in non-agriculture occupations), and all work on family farms is totally exempted.

A 1974 amendment to the Fair Labor Standards Act set age 12 as the legal limit to do farm work, but exemptions for 10 and 11 yr olds were granted shortly thereafter. In all other industries, the legal age limit is 16.

Under the Fair Labor Standards Act, 12 and 13 yr old children may be employed on any farm with the consent of their parent in a non-hazardous activity. [Hazardous activities include such work as operating heavy machinery, driving tractors, climbing ladders, and handling or applying toxic pesticides].

Minors younger than 12 yrs may be employed outside school hours in non-hazardous activities either on a farm owned or operated by their parent or on a small farm (i.e., one exempted from FLSA coverage) with the written consent of their parent.

U.S. House of Representatives
Select Committee on Children/Youth/Families
385 House Office Building Annex 2
Washington, DC 20515

12. "Hearing: "Environmental Toxins and Children: Exploring the Risks"
September 6, 1990

Statement of Congressman George Miller, Chairman, "We have only begun to turn the concern, children and environmental toxins, into action. Science tells us that children's rapid growth and development may make them especially vulnerable to environmental toxins. And recent studies suggest that their vulnerability is being tested every day.

Today, the Select Committee will begin investigating.

13. Testimony Submitted for Hearings on Child Environmental Health Risks. (September 6, 1990)

Ramona Ramirez is a Family Practice physician with 14 yrs experience working with farmworkers and other rural poor in the Central San Joaquin Valley of California. Taken extra postgraduate medical training in occupational medicine because of experience in dealing with farmworkers and food-processing workers. Has treated illnesses and injuries of farmworkers, their families, and nonfarmworkers affected by pesticide drift. Has seen acute OP poisonings, chemical dermatitis, chemically induced asthma, chemical pneumonitis, pesticide related peripheral neuropathies, Parkinson's disease, cardiomyopathy, neurobehavioral changes, and other disease states that she suspected were chemically induced.

Specifically in regards to children, related the following situations:

- an OP (guthion) pesticide drift from a peach orchard into a residential area 300 people were evacuated in 6/87; allowed back into their homes after about 2 hrs. 30 people subsequently went to a local emergency room. None were tested, and the case was dismissed as "mass hysteria." Saw 3 difference families, including children. Several of them tested positive (i.e. had depressed cholinesterase levels which subsequently rose back towards baseline).

- In August a mother and her son who both have asthma, experienced increased shortness of breath after an adjacent orchard was sprayed. Symptoms subsided after several hours.

- A young girl and her brother played in and around the family car on a hot summer day while the parents worked in the field. The girl began to vomit, was felt to be hot, and was rushed to the

hospital when she began to have seizures. Parents told she had suffered heat stroke. To this day she is "mentally slow" according to parents.

● In Patterson, CA 100 families lived in orchards because migrant housing was unavailable for them.

Equally disturbing is what we do not know as yet. The cancer risk, the teratogen risk, and other long term effects have been suspected but hard to prove. Only recently have tumor registries and birth defects registries been started in the San Joaquin Valley, and then only in certain counties".

14. "What's Gotten Into Our Children?: Protecting Our Children from Environmental Hazards", (9/6/90).

Statement by Dana Hughes, MPH, MS, Policy Consultant, Children Now and James Styer, JD, President of Children Now. This report is a synthesis of the scientific literature examining the effects of environmental exposures on children.

o Why children are at elevated risk: A growing body of evidence indicates that children are especially sensitive to a number of substances found in the environment. However, the full extent to which children are at risk is not yet known, in part because the effects of environmental toxins are frequently subtle if not altogether invisible.

o Not nearly enough research has been conducted on the effects of environmental toxins on children. The bulk of research thus far has focused on adult populations, a group facing very different risks than children.

15. Tomas R. Hill, Executive Director, Tri County Migrant Head Start Fresno, CA (9/6/90).

"However, one thing for certain is that one of the most important consequences of all of this "chronic exposure to agricultural chemical" is a large number of cancer cases.

Average number of "weeks worked per yr" - 8 weeks for children (14-17).

In 1988, with respect to pesticide illness by crop (in CA), grapes reported the highest number of cases N=36.

Typically, causes of "field residue poisoning" is either (1) misapplication of pesticide or (2) "reentry interval is inadequate."

16. Testimony of Richard J. Jackson, M.D., M.P.H., F.A.A.P., American Academy of Pediatrics, California Dept of Health Services 9/6/90

His comments about Alar and aldicarb reflect that environmental regulators need more public health and pediatric input.

17. "WINDOWS OF EFFECTS - WINDOWS OF DANGER. Bearer, Cynthia F., M.D., Ph.D., Director, Division of Pediatric Environmental Health, Children's Hospital, Oakland Research Institute.

Document discussion on two facts: (1) A child's environment is different than an adult's, and (2) a child's biochemical and physiological response to the environment is different than an adult's. Therefore, the exposure and response of children to a given environmental pollutant cannot be extrapolated from the adult experience.

18. Testimony of Lynn R. Goldman, M.D., Environmental Epidemiologist and Chief of the California Dept. of Health Services' Environmental Epidemiology and Toxicology Branch. (9/6/90).

Responsible for California's Childhood Lead Poisoning Program and for the epidemiological investigations carried out by California in response to childhood cancer outbreaks in the Central Valley of California. A certified Pediatrician with training in public health and epidemiology and published extensively in the area of environmental health.

McFarland incidence. Investigation began in 1984 and the cases interviewed looked for factors more common in cases compared to controls. The interviews focused on diet, pesticides, and other environmental exposures. The only common factor - residence in McFarland. An extensive environmental investigation was carried out to look for evidence of cancer causing agents like pesticides applied in the area; examined drinking water, soils, and even electromagnetic and microwave exposures from home wiring and nearby transmitters.

So far, these investigations have produced the following findings. (1) unable to date to determine the cause of the cancers in McFarland. It is likely that the occurrence was through a combination of exposures at lower dose that cannot be determined epidemiologically (but which may have occurred in that community by chance), through past exposures no longer present in the community, or not having the tools to identify the carcinogen in the community.

Very little is known about the causes of the types of cancers found in McFarland, or in the other communities I mentioned earlier.

A. Statement of Thomas H. Jukes, Professor of Biophysics at the University of California, Berkeley. (9/6/90)

Ph.D. degree in biochemistry and also worked in nutrition, vitamins and cancer chemotherapy. Received the Bruce F. Cain Memoria Award (1987) for Cancer Research for his participation in work on methotrexate, the first compound that was successfully used to treat leukemia in children at Lederle Laboratories, 1947-52.

Investigating environmental toxins and children's health needs careful scientific analysis because there have been recent panics. The fear of pesticides in foods is widespread. Actually, most foods tested have no detectable pesticide residues.

* The basic principle of toxicity that the dose alone makes the poison.

20. Testimony of Lawrie Mott, M.S., Senior Scientist, Natural Resources Defense Council. (9/6/90).

Immaturities in their physiological development can render the young more susceptible to the toxic effects of certain environmental contaminants. For example, the human nervous system is still developing rapidly for several years following birth and is not completely mature until adolescence.

In California, we have a separate opportunity to pass a new law that would for the first time explicitly require that safety standards protect children. This November, California voters will have the opportunity to enact the California Environmental Protection Act of 1990, otherwise known as "Big Green." The initiative, Proposition 128, was crafted by NRDC and California's other major environmental organizations to address the threats from a variety of toxic chemicals and contaminants in our air, water, food supply and atmosphere. If passed, this sweeping ballot initiative would: see attachment A.

21. Testimony of Mark E. Schaefer, Ph.D., Project Director, Office of Technology Assessment, U.S. Congress. 9/13/90. "Vulnerability of Children to Neurotoxic Substances."

22. Testimony of Susan H. Pollack, M.D., Instructor, Community Medicine and Pediatrics, Mount Sinai School of Medicine of The City University of New York and

Philip J. Landrigan, M.D., M.Sc., D.I.H., Chairman, Department of Community Medicine and Professor, Department of Pediatrics, Mount Sinai School of Medicine of The City University of New York, One Gustave L. Levy Place, New York, New York 10029 (9/13/90)

water, food supply and atmosphere. If passed, this sweeping ballot initiative would:

- * Phase out by 1996 pesticides whose active ingredients are known to cause cancer or reproductive harms;
- * Earmark some \$20 million in public funds for research into alternative pest control methods;
- * Reestablish permissible pesticide residue levels in food which will sufficiently safeguard the health of children;
- * Reduce emissions of chemicals and gases contributing to depletion of the ozone layer as well as to global warming;
- * Limit oil and gas extraction within California state waters and develop an oil spill prevention plan;
- * Impose strict new standards on the discharge of sewage and toxic waste into California's coastal waters;
- * Authorize \$300 million in bonds for the acquisition of ancient redwoods and reforestation; and
- * Establish a statewide elected Office of Environmental Advocate to oversee implementation of the initiative and other environmental laws.

Chances for passage of Proposition 128 are good. This law would be the first in the country to specifically require pesticide tolerances, or any exposure standard for that matter, to protect children. As such, its passage will set an important national precedent.

1. Studies of adult workers with benzene exposure have taught us that benzene can cause leukemia and lymphoma in humans. No one has yet published such a case in a child worker.

2. Migrant farmworker children also incur significant exposure to pesticides, despite federal child labor laws which prohibit hazardous exposures. Children work in the fields for long hours, which increase the duration of exposure. Lack of sanitary facilities with water for hand washing increases the possibility of dermal absorption and ingestion.

23. Testimony of Chris F. Wilkinson, Ph.D.

1. Risk - the probability that an adverse effect of some kind will occur.

Toxicology Risk Assessment

In the last few yrs we have tended to misuse and abuse science in order to develop and conduct regulatory policy. The regulatory process demands numbers (health guidelines, cancer risk estimates etc.) and the science involved in the risk assessment process has been stretched, bent and manipulated to produce such numbers. Gaps in scientific knowledge have been obviated and "resolved" by making a variety of conservative assumptions and regulatory guidelines. Regulatory policy has intruded into the scientific aspects of risk assessment and, in many cases, the two have become indistinguishable. Certainly they cannot readily be distinguished by nonscientists and the result has been a kind of public "brain-washing" that, indeed, we know a lot more about toxicology than we really do and have very precise methodology for evaluating human toxicological risks. We do not.

Because of the natural desire of regulators to remain firmly on the side of prudence, the risk estimates that are developed are typically based on a series of worst-case scenarios and highly conservative policy assumptions. The final result is often so conservative and hypothetical that it has little or no relationship with the real world. There is no question that regulatory action in this country is often strongly influenced by public opinion and Alar is a prime example of this.

This is the primary reason why it is so important to improve the communication process and raise the public's understanding of chemical and other risks so that issues of this type can be placed in better perspective.

Q: Are children inherently more sensitive to the adverse effects of pesticides and other chemicals?

A conventional wisdom has developed that children are always

more sensitive than adults to the action of pesticides and other synthetic chemicals. This has become a highly emotional issue that has both angered and frightened people. But where is the evidence to support this view.

At the present time there is neither scientific evidence nor epidemiologic data to support the view that children are always more sensitive than adults to the effect of environmental chemicals.

The possibility that certain human subpopulations (children, senior citizens, pregnant women, etc.) might be more sensitive and consequently at greater risk from certain chemicals is certainly something that should be carefully considered and evaluated and it is true that, in the past, we have not given as much attention to this as perhaps we should. As a result we don't have as much information as we would like to have and this tends to frighten people. On the other hand, there is nothing to suggest that any problem exists.

While more information is always advantageous, it should be emphasized that data on child sensitivity is extremely difficult to obtain. Extrapolation from the effects of chemicals on immature rodents or other animals is of questionable value and epidemiologic studies with groups of children are equally difficult to conduct and interpret. In the case of pesticide residues, there are no data to suggest that any problem exists.

24. Testimony of Richard Wilson, Mallinckrodt Professor of Physics, Harvard University. (9/13/90).

Came to explain the way in which a professional assessor and analyst of risks: The absolute ban (or taboo); The best available technology; Risk assessment, analysis and balancing.

Over the last 30 yrs., professionals in health and safety began to adopt a language, that of risk, rather than of absolute safety. Although there may be a threshold below which an environmental toxin has no adverse effects, there may not be. Then there is a risk that there is an adverse health effect, and an important issue arises: "What is the magnitude of the risk?" Once the language of risk is used it must also be realized that there is no possibility of zero risk. A second issue must then be stated: "What magnitude of risks are acceptable?" A 3rd issue could be: "Is there an alternative action with less risk?"

With all the toxins facing us, it is important that there be research on which are most likely to be especially risky to children. Exposure to children is especially important for carcinogens with a long latent period. A carcinogen with a short latent period, often a "promoter," is usually most important at a late age. Unfortunately there is at the moment little scientific consensus about which of the known toxins are in which category.

25. Testimony of Herbert L. Needleman M.D., Professor of Psychiatry and Pediatrics, University of Pittsburgh, School of Medicine, Chairman, The Alliance to End Childhood Lead Poisoning (9/13/90).

Discuss the impact of lead of low dose on the welfare of children. He and his colleagues have been investigating, with support from the federal government, for 20 yrs.

26. Testimony of Nancy Greenspan (9/13/90).

Mother of three children, one of whom has a chronic illness, and also as the co-founder and director of a local environmental group. Issue: link between environmental toxins and chronic illness.

27. Statement of Jay Feldman, National Coordinator, National Coalition Against the Misuse of Pesticides (9-13-90).

The special vulnerability of young people to pesticide exposure is easily recognized by virtue of their behavioral and lifestyle differences as well as physiological factors associated with age.

Existing literature links pesticides to a range of chronic health effects including cancer, birth defects, genetic damage, neurological, psychological, and behavioral effects, blood disorders, reproductive effects, and abnormalities in liver, kidney and immune system function.

Inert ingredients are considered trade secret information and the public is not allowed to know. Of the 1200 inerts, EPA knows 55 to be of "toxicological concern" because they have been shown to cause cancer, nerve damage, adverse reproductive effects, or other chronic effects. In some cases the inert ingredients may be more toxic than the active ingredient in a pesticide formulation. EPA does not have adequate data to assess the toxicity of 700-800 of the inerts and regards about 275 as innocuous.

There is no centralized, nationwide program or policy to collect information on how many Americans are acutely poisoned by pesticides each yr.

The important contribution to total pesticide exposure that may be attributed to contaminated house dust, air, soil, surfaces, and water has not enjoyed the same media and regulatory attention as food residues.

Farmworker children suffer disproportionately high risk.

In addition to working in the fields themselves, farmworker

children can be exposed through prenatal maternal exposure, from being in the fields where their parents work, contact with pesticide residues on parents' clothing, and living in migrant camps next to fields being treated.

Labor-intensive crops are also those that receive heavy pesticide application. Over 50% of farmworkers are hired for harvesting operations, which involve contact with foliage during periods of high pesticide application.

An internal memo dated March 1986 recommended that among the subgroups relevant to toxicity data, the subgroups with the highest exposure should be used as the basis for regulatory decisions.

RECOMMENDATION: EPA should be required to immediately establish a policy that tolerance decisions are to be based on the most highly exposed subgroup, which in many cases will be infants and children.

There is a need for a holistic and thus more realistic approach to hazard assessment which considers the risks of pesticide exposure encountered through all possible routes, including diet, inhalation, and across the skin. Unfortunately, the data necessary to make such an assessment are rarely available and are not required by the regulatory system.

".....ignoring real world risks, where multiple pesticides are encountered.

UNITED STATES SENATE
Room 430 Dirksen
Senate Office Building

Joint Hearing of the Subcommittee on Children, Family, Drugs and Alcoholism and the Subcommittee on Labor. Child Labor Amendments of 1991, S. 600. 3/19/91

28. Statement of Senator Christopher J. Dodd

"Our current law and current enforcement don't provide the necessary protection. The Dept of Labor has turned greater attention to child labor."

"Third, the bill would better protect farmworker children in migrant and seasonal agriculture. These children are at particularly high risk, due to exposure to toxic pesticides and disruption of school attendance. Yet exemptions in current law permit young children to work in this setting. Our bill applies the same prohibition against work for children under fourteen yrs of age that now applies in non-agricultural settings. I should add that the prohibition would not cover the family farm.

Federal Child Labor provisions in the Fair Labor Standards Act (FLSA)

Agricultural Employment: In agriculture, the basic minimum working age is also 16, although the law permits employment of children as young as 10 under certain conditions. (For example, children as young as 10 and 11 may work outside school hours to hand harvest certain crops at their permanent residence for up to 8 weeks in any calendar year, if DOL approves their applications.) The law does not limit the number of hours children engaged in agriculture can work outside of school hours.

Summary of the Child Labor Amendments of 1991 - S. 600 SEE ATTACHMENT B.

29. Statement of Senator Howard M. Metzenbaum, Chairman of the Senate Subcommittee on Labor; Hearing on S. 600 (3/19/91).

"Consider S. 600, a bill to help educate the public about federal child labor laws and to strengthen enforcement against child labor violators.

The explosion of child labor violations during the last decade has been documented by the government and also by various child welfare, labor and consumer organizations. Recent GAO studies reveal significant increases in all types of child labor law violations in all areas of the country.

Moreover, because no comprehensive work-related injury and illness data exist for minors, the GAO studies underestimate the true magnitude of workplace injuries to children.

Indeed Senator Dodd and I have received letters from over 30 organizations urging that we act now to protect our children.

In addition our law allows the exploitation of children under the age of 14 who work as migrant and seasonal farmworkers.

In addition, S. 600 incorporates former Secretary Dole's recommendation that the Fair Labor Standards Act be amended to allow imprisonment on the first conviction for any willful violation of federal child labor law, rather than only upon a second conviction as provided under current law.

30. Statement of: Samuel D. Walker, Acting Assistant Secretary for Employment Standards.

Commented on Senate Bill S. 600, the Child Labor Amendments of 1991.

ATTACHMENT 1 D.
March 1991

Summary of The Child Labor Amendments of 1991 - S. 600

--Introduced by Senators Howard M. Metzenbaum (D-OH) and Christopher J. Dodd (D-CT)

--Will strengthen the enforcement scheme for child labor law violations and also provide basic data on child labor practices.

Specifically, the bill:

---establishes criminal sanctions for willful violations of child labor laws that result in the death of a child (maximum 10 years in prison); and willful violations that result in serious bodily injury to a child (maximum 5 years in prison);

--provides that willful and repeated violators of child labor laws are ineligible for federal grants, loans, or contracts for 5 years, and also are ineligible to pay the subminimum youth training wage;

--requires the Department of Labor to compile and make available to school districts the names and addresses of child labor law violators and the exact nature of the violation;

--requires certificates of employment for minors under the age of 18 who do not have a high school diploma; this will set minimum standards for protecting children in the workplace, educate parents, children, and employers about child labor laws, and provide basic data on child labor in the United States;

--provides protection for minors under the age of 14 who are migrant or seasonal agriculture workers; the bill does not affect in any way the current provision exempting children who work on family farms;

--expands the list of hazardous occupations for teenagers to include poultry processing, fish and seafood processing, and pesticide handling.

--For additional information on S. 600, contact the Senate Subcommittee on Labor at (202) 224-5546 or the Senate Subcommittee on Children, Family, Drugs, and Alcoholism at (202) 224-5630.

31. Testimony of: Matthew Garvey, 17 yr old senior in high school.

At the age of 13 he was hired at a local car wash. No one ask for a work permit. Loss his leg in a towel dryer. This machinergy sucks the water from the towels. The machine that took his leg was working without the top; the safety lid was broken off. The machine was not supposed to run if the top was open. Someone had rigged the machine to run without the top. Car Wash was fined \$400.

32. Testimony of: Fernando Cuevas, Jr..

At age of 7 or 8 competing with older sisters and parents and making almost as much as them in quantity but getting paid in piece rate. At age 12 he could work the same as any adult.

When he is in the midwest, Texas or Florida, he sees children at the same age he was (4, 5, 6, 7, and 8 yrs old) still working out in the field. Get up at 5 or 6 in the morning to go to work and not to school.

33. Testimony of: Adolfo Correa, M.D., F.A.A.P.

A peditrician and occupational epidemiologist, an assistant professor of pediatrics and occupational and enviornmental epidemiology at the John Hopkins Medical Institutions. Has extensive experience in child health, public health and in epidemiology. Has worked in the assessment of occupational and environmental health hazards, in particular those affecting children and women of reproductive age.

Remarks limited to the sections of the S. 600 bill that dealt with child labor in agriculture.

"It is estimated that children under 14 yrs of age make up 19 percent of the farm population. Many of these children are employed by their parents; many more, for when structured child care alternatives are unavailable, accompany their migrant families and work alongside them as seasonal laborers.

A systemic risk assessment of agricultural workers in the United States has not been done, so it is difficult to know at this time the range and actual magnitude of adverse health effects from agricultural work. Despite the lack of adequate mortality and morbidity surveillance systems, several physical and chemical hazards have been identified in the agricultural work force.

For younger workers, though, small physical size and inexperience may result in higher risks.

Less is known about the incidence and severity of illness than about injury in children in the agricultural setting. Although it is recognized that young workers are exposed occupationally to substances known to be hazardous to adults, including pesticides, studies examining the risks of acute poisoning, developmental impairment, chronic diseases or cancer from various exposure conditions among children are limited.

One reason for the childhood health hazards from farm work has been the double standard in labor legislation, that is, a lower minimum age in agricultural than in non-agricultural occupations.

NEEDS -

[1] develop better data on the extent, nature and the severity of health hazards among agricultural worker children;

34. Testimony of: Dave Renfro, Oklahoma Commissioner of Labor.

35. Testimony of: Dr. Jack R. Anderson, Superintendent of Schools, East Ramapo Central School District, Spring Valley, New York.

36. Testimony of: Franklin Frazier, Director, Education and Employment Issues, Human Resources Division. "The Characteristics of Working Children in the U.S. General Accounting Office.

Regulations issued under the Fair Labor Standards Act of 1938 limit the hours that children under age 16 can work, set minimum age standards for work in specified occupations, and restrict employment in specific hazardous occupations for youths under age 18. Detected child labor violations increased 340 percent since 1983. For child labor violations, the average assessed penalty per violation in FY 1990 was \$212.

When employed, children from low-income families were more likely to be employed in agriculture or other "hazardous" industries like manufacturing or construction. They also worked more hours a week but fewer weeks a year.

In those FY 1990 cases where Labor can readily identify the assessed fines, Labor assessed the maximum penalty of \$1,000 against all child labor violators employing a child who was seriously injured. Labor did not cite any of these businesses for willful violations (for which the penalty could have been \$10,000). nor did it refer any of these cases for criminal prosecution.

Background:

...policy decisions on how to prevent violations have been hampered by a lack of basic data about working youth. Researchers believe that it also underestimates the true amount of annual employment by children. In addition, as we noted in our April 1990 report, no comprehensive national work-related injury and illness data exist for minor.

The Fair Labor Standards Act (FLSA) is the primary federal law regulating wages and working conditions of American workers, including children.