



Agricultural Occupational Injuries and Illnesses in Florida¹

Florida Department of Labor and Employment Security
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Agriculture is one of the most hazardous occupations in the United States. The only industries which compete for this not so prestigious title are mining and construction. For this reason, many agencies and laws have been enacted to combat this problem and save lives.

One such agency, the Division of Safety, compiles data relating to on-the-job injuries and illnesses. This information is important because it demonstrates the most dangerous aspects of agriculture. Using this data, a farm owner, manager or employee can identify hazards and eradicate or at least avoid them.

The information contained in this document was obtained by surveying 15,000 private sector employers in the state of Florida; therefore, the information is specific to Florida and relevant to your business. However, farms with fewer than 11 employees were not polled, therefore illness and injury totals are not based on all farms operating in Florida.

The Division of Safety analyzes and classifies the information garnered from the surveys according to Standard Industrial Codes. The following groups will be discussed:

- private sector (all industries)
- agriculture, forestry and fishing,
- agricultural production,
- agricultural services,
- food and kindred products,

- miscellaneous food and kindred products,
- textile mill products, and
- paper and allied products.

These classifications are obtained from the *Standard Industrial Classification Manual, 1987 ed.*

GLOSSARY

Average Lost Workdays per Lost Workday Case are the number of lost workdays divided by the number of lost workday cases.

Incidence Rates are the number of injuries and/or illnesses, or lost workdays experienced by 100 full time workers. The rate is calculated as:

$$IR = \frac{N \times 200,000}{EH}$$

Where:

- IR = incidence rate
- N = number of injuries and/or illnesses or lost workdays
- EH = total hours worked by all employees during reference year
- 200,000 = base for the 100 full time equivalent workers (working 40 hours per week, 50 weeks per year).

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Lost Workdays are the number of days, consecutive or not, the employee would have worked, but was absent from work or performed restricted work activity because of an occupational injury or illness. The number of days away from work does not include the date of injury or onset of illness.

Lost Workday Cases are cases which involve days away from work or days of restricted activity, or both.

Non-Fatal Case Without Lost Workday is any occupational injury or illness which was not a fatality and did not involve lost workdays but did result in a transfer to another job, termination of employment, medical treatment other than first aid, diagnosis of an occupational illness, loss of consciousness or restriction of work or motion.

Occupational Illness is any abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or diseases which may be caused by inhalation, absorption, ingestion or direct contact.

GENERAL FINDINGS

In 1991, private sector workers in the State of Florida experienced occupational injuries and illnesses at the rate of 7.8 cases per 100 full-time employees, a decline of 5 percent from the 1990 rate of 8.2. See Table 1. Other key observations include:

- The total number of occupational injury and illness cases reported during 1991 in Florida's private sector was 288,600. Of this total, 97.1 percent were injuries.
- One in every 13 full-time workers experienced a work-related injury or illness in 1991.
- The incidence rate for lost workday cases fell 8.1 percent from 3.7 in 1990 to 3.4 in 1991.
- The nonfatal cases without lost workdays incidence rate decreased by 2.2 percent from 4.5 to 4.4 during the two year period.
- The average number of lost workdays per lost workday case was 21 days, up from 18 days in 1990.
- The total case rate for illnesses was .3 in 1991, up from .2 in 1990.

- Occupational injuries were reported at a rate of 7.5, a decrease of 6.3 percent from 8.0 in 1990.
- Before 1986, Florida's occupational illness and injury rate mirrored national trends. Since then, Florida's rates have consistently fallen in the face of rising national rates.

FINDINGS IN THE AGRICULTURAL SECTOR

Farms with fewer than 11 employees are exempt under OSHA regulations from reporting injuries and illnesses occurring in their work areas; therefore, estimates of incidents in Agriculture, Forestry and Fishing are not based on all farms operating in Florida.

In 1991, the Agriculture, Forestry and Fishing industry division accounted for 3.3 percent of the private sector workforce. During the two year period, employment grew 3.5 percent, while the total case rate dropped 20 percent, the largest decrease of any industry division, from 13.5 to 10.8 cases per 100 full time employees. Agriculture, Forestry and Fishing had the largest decrease in the incidence rate of total illness cases with a 50 percent drop to .3 cases per 100 full time workers in 1991 from .6 in 1990. In 1991, 12,800 cases of injuries and illnesses were reported; 50 percent of these cases resulted in lost workdays, down from 52 percent in 1990. Significant drops in incidence rates included:

- The lost workday case rate, down 23 percent from 7.0 to 5.4.
- The nonfatal cases without lost workdays, down 16.9 percent from 6.5 to 5.4.
- The lost workday rate, down 12.7 percent from 118 to 103 days lost per 100 workers.

AGRICULTURE COMPARED TO OTHER INDUSTRY GROUPS

Agriculture has the second highest occupational injury and illness incidence rate (10.8), second only to construction. The occupational injury and illness rate for the Private Sector as a whole was 7.8.

Table 1. Incidence Rates of Occupational Injuries and Illnesses by Industry

Industry ²	1991 Avg. Employment (000's) ⁴	Cases ⁵	Lost Workday Cases ⁶	Non-Fatal Cases Without Lost Workdays	Lost Workdays ⁸
Private Sector -- All Industries⁷	4,468.9	11.3	9.2	7.5	131.3
Agriculture, Forestry and Fishing	148.8				106.1
Agricultural Production⁷	71.7				
Agricultural Services	77.1				
Food and Kindred Products	10.4				
Meat Products	6.7				
Preserved Fruits and Vegetables	12.0	7.7	5.3	7.5	90.2
Canned Fruits and Vegetables	N/A	11.2	5.5	9.0	81.0
Frozen Fruits and Vegetables	N/A	11.4	5.1	6.3	98.8
Misc. Food and Kindred Products	6.7	13.7	7.6	8.1	110.8
Fresh or Frozen Prepared Fish	N/A	18.4	9.1	9.3	140.1
Textile Mill Products	4.5	4.3	3.3	1.6	88.2
Paper and Allied Products	13.6	9.3	3.9	5.2	102.4
Paperboard Containers and Boxes	4.1	10.9	4.4	6.5	99.3
Misc. Converted Paper Products	267	7.1	5.0	4.7	96.6

¹ The incidence rates represent the number of injuries and/or illnesses or lost workdays per 100 full time workers.

² Totals for divisions and 2- and 3-digit SIC codes include data for industries not shown separately.

³ *Standard Industrial Classification Manual*, 1987 ed.

⁴ Annual average employment is estimated from the Current Employment Statistics Program. Annual average employment for the Agriculture, Forestry and Fishing industry division is a composite of employment data for Agricultural Production (SIC's 01 and 02) from the Annual Survey of Occupational Injuries and Illnesses and employment data for Agricultural Services (SIC 07), Forestry (SIC 08), and Fishing, Hunting and Trapping (SIC 009).

⁵ Includes fatalities. Some numbers may not add up because of rounding.

⁶ Includes those cases which may have only involved days of restricted work activity.

⁷ Includes farms with fewer than 11 employees.

⁸ Some numbers may not add up because of rounding.

Agriculture also has the second highest amount lost workday cases (5.4), again, second only to construction. The lost workday cases for the Private Sector as a whole was 3.4.

Three agricultural industry divisions rank in the "Top Ten Occupational Injury and Illness Incidence Rates -- Major Groups". They are Food and Kindred Products (ranked 2), Agricultural Production of Livestock (ranked 5), and Lumber and Wood Products (ranked 6). Four agricultural industry divisions rank amongst the "Top Ten Lost Workday Cases -- Major Groups". They are Food and Kindred Products (ranked 3), Agricultural Production of Livestock (ranked 4), Lumber and Wood Products (Ranked 8) and Agricultural Production of Crops (ranked 10).

One agricultural industry, Meat Products, ranks number 1 in the "Top Ten Industries -- Occupational Illness and Injury Rates". The Meat Products industry also ranks number one in the Top Ten Industries -- Lost Workday Cases", closely followed by Lumber and Building Materials (ranked 10).

Additionally, an agricultural worker in Florida is just as likely to be injured or become ill than in any other state (on the average). Florida agriculture's injury and illness rates are now the same as the United States as a whole (incidence rate = 10.8. Florida should strive to be the safest place to work (and play).

Table 2. Percent distribution of employment vs. injuries and illnesses by major industry division

Industry Division	Employment	Injuries and Illnesses
Mining	0.2	0.1
Agriculture	3.3	4.4
Transportation	6.0	7.8
Construction	6.2	9.7
Wholesale Trade	6.4	6.6
Finance	8.0	3.1
Manufacturing	11.0	16.1
Retail Trade	25.0	23.9
Services	33.7	28.2

The statistic that sums up agriculture's need to strengthen its safety programs is that though agriculture employs only 3.3 percent of the work force in Florida, it has 4.4 percent of the injuries and illnesses. See Table 2.

NATURE OF INJURIES OCCURRING TO AGRICULTURAL WORKERS

Nature of injury refers to the identification of an injury in terms of its principal physical characteristics (i.e., fracture, laceration, strain, bruise, etc.). The reported data provide compelling evidence that Strains and Sprains overwhelmingly dominate the nature of frequent injuries. See Table 3.

Table 3. Percent distribution by nature of injury (Florida 1991).

Nature of Injury	Percent of Cases	
	Agriculture ¹	Total ²
Strains & Sprains	64.7	70.9
Cuts & Lacerations	13.8	8.3
Fractures	7.8	7.5
Bruises & Contusions	6.0	6.5
Occupational Diseases	1.1	1.7

¹ Includes agriculture, forestry and fishing.
² Total for all industries in the private sector.

As can be seen, the nature of injuries occurring in agriculture mirror those of Florida as a whole. It is interesting to note that agricultural workers suffer almost twice as many cuts and lacerations as the rest of the State's employees.

LOCATION OF THE BODY MOST FREQUENTLY INJURED

Table 4 summarizes the number of compensable cases by body location. The extremities (upper and lower combined) is the body part most frequently injured (1584 compensable cases or 40 percent of the total number of compensable cases when combined) followed by the Trunk, Back and Spine with 878 compensable cases (28 percent of the total). The data for agriculture closely mirror the data for all private industry in the State.

Table 4. Compensable cases by body location (Florida 1991).

Body Location	Total ¹		Agriculture ²	
	Number	Percent of Total	Number	Percent of Total
Eyes	711	1	72	2
Head, Face, Neck	2,699	3	115	4
Trunk, Back, Spine	25,691	32	878	28
Upper Extremities	17,578	22	751	24
Lower Extremities	19,305	24	833	26
Body (not elsewhere classified)	13,904	17	493	16
Not Reported	633	1	30	1
Total	80,521	100	3,172	100

¹ Includes agriculture, forestry and fishing.
² Total for all industries in the private sector.

CONCLUSIONS

It is abundantly clear that if Florida Agriculture is to make any significant improvement in its safety record, it must tackle "head-on" the problem of strains and sprains to the upper extremities (wrist, elbow, shoulder), the lower extremities (ankle, knee and hip) and particularly to the back. Teaching workers how to lift and requiring them to wear quality safety shoes with slip resistant soles and heels is only part of the answer.

We must tackle the problem of heavy lifts and carries, awkward or high lifts and repetitive lifting, pushing and pulling. We need to find better means of using mechanical lifts and conveyors, use lighter containers and in general, reduce the strain we place on employees backs, legs and arms. Try loading boxes of fruit on a pallet or use a full sized citrus bag all day. Only then can you understand the problems we have with strains and sprains in Florida agriculture.