### MOST COMMON COMPENSATION CLAIMS FOR FARM AND RANCH EMPLOYEES IN THE UNITED STATES: BACK INJURIES FROM MANUAL MATERIALS HANDLING

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#### **ABSTRACT**

Workers' compensation data were searched for records about claims among farm and ranch employees in the United States. Over 36 percent were coded in the sprains/strains category. Almost half of the sprain/strain cases affected the worker's back. Over half of these were attributed to manual materials-handling incidents. These findings suggest that funding for farm and ranch safety programs should emphasize programs to prevent sprains and strains associated with manual handling.

#### INTRODUCTION

The health and safety of farm and ranch workers in the United States (U.S.) has received much less attention than that of workers in other industries. A recent grassroots initiative succeeded in bringing attention to the insufficient level of resources for agricultural safety and health (Donham, 1990). This has been followed by a commitment of resources from the Federal government aimed at reducing injuries and illnesses among employees, owners, and family members who work on farms and ranches. The availability of increased funding has fostered competition among researchers regarding the relative importance of various injuries and illnesses afflicting farm and ranch workers. In order to provide some objective data about the relative frequency of various injury and illness cases among farm and ranch employees, this analysis was undertaken.

The data source used for this analysis was a record system established by the U.S. Bureau of Labor Statistics called the Supplementary Data System (SDS). It was based on workers' compensation claims. Records were obtained by states, coded using a uniform format, and provided to the Bureau of Labor Statistics. States were free to choose whether or not to participate. The SDS program has been phased out, but the data already in the system continues to provide the best available source for multi-state information about the kinds of occupational injuries and illnesses experienced by farm and ranch employees in the U.S.

#### **METHOD**

Workers' compensation records in the SDS were searched for the year 1986 (Jensen, 1987). Coded records about workers' compensation claims were found for the 26 states that elected to participate. These states were: Alaska, Arizona, Arkansas, California, Colorado, Delaware, Hawaii, Indiana, Iowa, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Missouri, Nebraska, New Mexico, New York, North Carolina, Ohio, Oregon, Tennessee, Virginia, Washington, Wisconsin, and Wyoming.

Two of the Standard Industrial Classifications (SIC) for agriculture were included: Crop production (SIC 01) and livestock production (SIC 02). The SDS records for 1986 included 17,771 claims in crop production and 6,199 claims in livestock production.

#### RESULTS

Claimants ranged from 10 to 88 years of age, with the majority being between 20 and 39 years of age. Age distribution was similar for males and females.

The most common occupational classification of claimants was "farm worker." This occupation constituted 71.18 percent of claims in crop production and 71.53 percent in livestock production.

Table 1 indicates the distribution of claims reported by the 26 states for 1986 according to a quasi-diagnostic classification system called "nature of the injury or illness." Of all claims, over 36 percent were coded in the sprains/strains category. Crop production has a somewhat larger percentage of sprain/strain claims (38.92%) than livestock production (30.23%). Other common injuries were lacerations (13.90%), fractures (12.95%),

contusions (9.29%), and abrasions (3.96%).

Since the sprain/strain category represented over one-third of all claims, these cases were examined further. Almost half (47.45%) of the sprain/strain cases affected the worker's back. Other body parts with substantial proportions of sprain/strain claims were the knees (8.27%), ankles (8.66%), shoulders (4.84%), and wrists (3.11%). Back sprain/strain claims made up 17.64 percent of all claims in these agricultural industries.

Of the back sprain/strain claims, over half (57.11%)

were attributed to manual materials-handling incidents reported as lifting objects (44.67%), pulling or pushing objects (6.90%), and throwing or wielding objects (5.54%).

Of the back sprain/strain claims attributed to manual object handling, the object categories making up the largest percentages were boxes/crates (17.59%), plants/trees (6.51%), bags/sacks (6.34%), pipe (7.09%), bales/bundles (4.95%), pails/buckets (3.82%), nonpowered vehicles (2.69%), pots/pans/dishes/trays (2.43%), and animals (2.14%).

Table 1. Percentage Distributions for Workers' Compensation Claims According to the Nature of the Case

Nature of Injury or Illness	Crops	Livestock	Combined
SPRAIN, STRAIN	38.92	30.23	36.67
CUT, LACERATION, PUNCTURE	14.03	13.52	13.90
FRACTURE	11.10	18.28	12.95
CONTUSION, CRUSHING, BRUISE	8.42	11.79	9.29
ABRASION, SCRATCHES	4.65	2.00	3.96
MULTIPLE INJURIES	2.89	3.63	3.08
SKIN DISORDERS & INFECTIONS <sup>a</sup>	2.72	0.56	2.17
HERNIA, RUPTURE	1.34	2.06	1.53
DISLOCATION	1.46	2.13	1.63
SYSTEMIC POISONING	1.40	0.88	1.26
AMPUTATION	0.72	0.97	0.78
BURN (HEAT)	0.86	1.03	0.91
INFLAMMATION OF JOINTS	0.49	0.42	0.47
BURN (CHEMICAL)	0.49	0.35	0.45
CONCUSSION	0.50	0.61	0.53
ILL DEFINED CONDITIONS	0.56	0.18	0.46
NERVOUS SYSTEM, NONTOXIC EFFECTS	0.28	0.50	0.33
EYE DISEASES	0.34	0.23	0.31
OTHER SPECIFIED CASES <sup>b</sup>	1.36	1.51	1.43
NONCLASSIFIABLE	7.47	9.11	7.89
TOTALS	100.00	100.00	100.00

a. Skin disorders cases consisted of contact or allergic dermatitis (417 cases), infections (90 cases), and other (12 cases).

b. This category includes radiation effects, heat disorders, heart conditions, infective or parasitic diseases, electric shock, circulatory system, freezing/frostbite, mental disorders, asphyxia, pneumoconiosis, hearing loss, respiratory conditions, hemorrhoids, complications peculiar to medical care, damage to prosthetic device, tumor, and hepatitis.

#### DISCUSSION

The primary finding of this analysis was that back sprain/strain claims made up 17.40 percent of all claims in the crop and livestock production industries. This analysis suggests that funding for agricultural safety programs should emphasize the prevention of sprains and strains associated with the handling of materials and animals. It would obviously make sense for ergonomists interested in this subject to establish a multi-national, multi-disciplinary network to ensure coordination and quality of research concerning back injury prevention among farm and ranch employees.

The SDS data has some inherent limitations. The relatively small percentage of claims for the illness categories may be partially explained by the fact that workers' compensation laws were developed primarily to compensate workers for injuries. The poor coverage of occupational illnesses is widely recognized (Ashford and Andrews, 1983).

Furthermore, these data come from 26 of the 50 states; whether the other 24 states would show a similar distribution of workers' compensation claims is uncertain. Also, workers' compensation insurance does not generally include owners, their family members, or casual labor so these data should not be regarded as representative of their injury and illness experience. Thus, the data presented here are applicable only to full-time employees in the crop and livestock production industries in the U.S.

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