Finnish farm worker orientation studies and guidelines to the farm managers considering the vulnerable populations

Sacurima COST Action WG3 workshop - How to improve safety culture and risk management in vulnerable populations in agriculture? April 25, 2019, Magnus University, Kaunas, Lithuania

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Towards better safety culture in agriculture

Agriculture has been one of the worst fatal accident records of any major employment sector – over 50 % of fatal work accidents worldwide (in EU~ 12-15 %)

Agriculture has been third in non-fatal work accidents numbers after mining and construction industries. In year 2013 there was 135 000 non-fatal work accidents in agriculture in EU.

How to define what is good worker safety culture in Agriculture?
Farm worker management and orientation studies in Finland

- Farmers’ perceptions of necessary management skills in year 2007
- Farm safety and security management, year 2008
- Employee orientation guide in agri- and horticulture, year 2010
- Factors affecting occupational safety and health of foreign farm workers in Nordic countries, year 2012
- Farm worker management and welfare at work in agriculture, year 2013
- Farm machinery safety risk study, year 2015
- Systematic risk management on farms, year 2016 (Doctoral study)
- Machinery safety guide in agriculture, from 2017
- Safety culture and risk management in agriculture (Sacurima COST Action), from 2017 – 
- Pilot study of farm relief workers safety culture and motivation, year 2018
- Safety culture message in agriculture, from 2018 –
Farmers’ perceptions of necessary management skills
(n=130)

## Farm safety and security management (N=590)

<table>
<thead>
<tr>
<th>Injury event as dependent variable</th>
<th>Multivariable estimates</th>
<th>Final model estimates</th>
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<tbody>
<tr>
<td></td>
<td>95% Confidence Limits</td>
<td>95% Confidence Limits</td>
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<td></td>
<td>OR</td>
<td>LL</td>
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<tr>
<td><strong>Group A</strong></td>
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<tr>
<td>Respondent</td>
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<tr>
<td>FOHS membership (vs. not membership)</td>
<td>1.49</td>
<td>1.00</td>
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<tr>
<td><strong>Farm</strong></td>
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<tr>
<td>Farm size: field hectares &lt; 40 (vs. ≥ 40)</td>
<td>0.26</td>
<td>0.09</td>
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<tr>
<td>Beef cattle (vs. no beef cattle)</td>
<td>0.24</td>
<td>0.06</td>
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<tr>
<td><strong>Farm Management</strong></td>
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<tr>
<td>Quality management training (vs. no training)</td>
<td>1.46</td>
<td>1.00</td>
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<tr>
<td>Computer used for farm management (vs. not used)</td>
<td>1.76</td>
<td>1.01</td>
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<tr>
<td><strong>Group B</strong></td>
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<tr>
<td>Risk perception; perceived risks: high (vs. low)</td>
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<tr>
<td>Injury risk</td>
<td>1.61</td>
<td>1.07</td>
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<tr>
<td>Dependence on one person</td>
<td>1.68</td>
<td>1.04</td>
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<tr>
<td>Dependence on few suppliers</td>
<td>1.90</td>
<td>1.01</td>
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<tr>
<td>Risk perception; actual incident or close call during past 3 years: yes (vs. no)</td>
<td></td>
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<tr>
<td>Physical strain risk</td>
<td>2.75</td>
<td>1.63</td>
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<tr>
<td>Risk on farm family members</td>
<td>3.13</td>
<td>2.49</td>
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<tr>
<td>Dependence on one person</td>
<td>2.52</td>
<td>1.28</td>
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<tr>
<td>Water or energy supply risk</td>
<td>2.31</td>
<td>1.35</td>
</tr>
<tr>
<td>Measures to monitor and control risks on farm: yes (vs. no)</td>
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<tr>
<td>Leppälä, J. etc. 2013. Effectiveness of occupational health service programmes in farmers’ safety and security risk management. IJAM vol 2, issue 3.</td>
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</table>
Employee orientation guide in agri- and horticulture

- In Finland 15,000 foreign workers yearly in agriculture on 2000 farms. About 28,000 seasonal workers (young people, less education etc.).

Orientation planning
Finding employees and recruiting
Employee reception and orientation to the farm in general
Employee work orientation
Monitoring of employee work

Management tools: contacts, addresses and phone numbers, orientation check list, machinery instructions and guidebooks, legislation books and documents, working contracts, salary calculators, quality and safety instructions, rescue instructions, services in nearby area, farm rules, health service contacts and instructions, internet services and information, social spaces, lockable closet for own stuff, instructions in employee’s own language.
Farm worker management and welfare at work in agriculture – have had difficulties in managing the task

- Inquiry to farm employers in year 2011. Totally 230 farm employers responded. Respond rate was 25 %.
Factors affecting occupational safety and health of foreign farm workers in Nordic countries (Heiberg, Mattila, Kaustell, Rautiainen 2012)

- Communication as a main issue. It is complicated by diverse attitudes towards safety among workers.

- Unclear role of safety as the responsibility, lack of language skills, lack of work experience and awareness of safety hazards, shyness and cultural differences leading to misunderstandings and underreporting of incidents.

- Homesickness was a special stress factor among foreign workers.

- Making money was clearly the first priority, and workers were motivated to work long days to increase their earnings.

- Tips for farm managers: experienced workers guiding and training newcomers can be used effectively with employer monitors that safe working procedures are followed. Discussion of health and safety issues can be activated and encouraged. Supporting the wellbeing of workers in general, like efforts to ease homesickness, may have a positive effect on safety as well.
Pilot study of farm relief workers safety culture and motivation

Actual risk incidents (number of respondents)

- Harassment on farms
- PPE fitting (to workers themselves)
- Broken PPE's on farms
- Problems with occupational health services
- Problems with insurances
- Negligence at work
- Time management
- Communication on farm
- Management on farms
- Unorganised (messy) production environment
- Environmental risk
- Electric system safety
- Fire safety
- First aid ability on farms
- Machinery safety risk
- Safety of buildings
- Farm children safety risk
- Animal handling risks
- Mental health risk
- Physical well-being
- Taking care of safety on farms (in general)

Legend:
- To farm people
- To myself
Pilot study of farm relief workers safety culture and motivation

Farm work is physically stressing, which emphasizes the need to be in good health.

The greatest challenges and risks in farm relief worker work were busy work, tight work schedules, unsafe work environment in animal handling, negligence in work, poor communication on farm, poor safety management on farm, too long driving distances during the day, poor machinery and electric tool conditions and orientation on farms.

Orientation training on farms is increasingly important as technologies are changing, new automated systems are added, and if the farm relief worker and farmer have different native languages.
**Tools for Farm Management and Risk Control**

- Production planning
- Farm risk management
- Farm quality systems
- Resource management
- Task organizing
- Decision making tools
- Bookkeeping and cost management
- Financial and investment planning
- Health and safety management
- Tax and insurance planning
- Environmental management
- Etc..

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**Risks Inside the Farm**

**Assets and Finance**
- Farmyard property
  - Robbery and vandalism
  - Order on the yard, utilities
- Buildings
  - Condition and structures
  - Fire and fire prevention
  - Electrical installations, lighting
- Land property
  - Productivity
  - Availability
  - Land use
- Forest
  - Growth
  - Losses
  - Use
- Animals
  - Animal welfare and breeding
  - Animal shelters and animal health
- Investments
  - Planning and accounting
  - Purchase information
- Insurances
  - Insurance control
- Other property acts
  - Property relations
  - Contracts
  - Taxes

**Products and Production Quality**
- Production and economics
  - Customer demands
  - Plant production
  - Animal production
  - Production costs
  - Solvency
- Machinery and equipment capacity
  - Machinery maintenance and dependability
  - Electronic instrument condition
  - Data processing
  - Fuel and energy
- Work organizing
  - Working methods
  - Know how
  - Schedules
  - Labour resources
  - Contracting
  - Collaboration
- Logistics
  - Transportation arrangements
  - Traffic conditions, roads
- Other product functions
  - New methods and products
  - Production image, branding
  - State of emergency
  - Farm production in natural and security crises, preparedness

**People Safety**
- Hazards in work environment
  - Noise
  - Temperature conditions
  - Accessways, high elevations
  - Conditions of work
  - Chemicals
  - Air quality, dust and mould
- Machinery safety
  - Machinery and equipment
  - Hand and power tools
  - Electrical safety
- Physical strain and welfare
  - Work strain
  - Work amount
  - Operation planning
  - Mental stress and welfare
- Other hazards
  - Transportation and traffic
  - Animal handling
  - Forest and firewood work
  - Visitors safety on farm
  - Family safety

**Outside Impacts into the Farm**

- Finance and markets
  - Finance policy
  - Financial markets
  - Market competition
  - Product demand and refining
  - Product prices
- Networks
  - Trade
  - Refiners
  - Contractors
  - Suppliers
  - Authorities
  - Research and education
  - Media
  - Advertising
  - Social relationships
  - Regulations
  - Subsidy policy
  - Laws and acts
  - Tax policy
  - Import and export policy
  - Global policies
- Other outside impacts
  - Nuclear power accidents
  - Epidemic crisis
  - Natural disasters
  - Wild animals
  - Society level security crisis

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**Impacts from the Farm**

- Customers
  - Products and services
  - Delivery reliability
  - Food safety
  - Consumers
- Environment
  - Waste waters
  - Solid wastes
  - Chemicals, fuels, oils
  - Cultivation and fertilizing
  - Material and energy consumption
  - Landscape issues
  - Biodiversity
  - Permissions
  - Complaints from others
  - Other environmental issues
Vulnerable populations and safety culture in Agriculture? - Discussion

- In Finland there are 15000 foreign workers working yearly in agriculture – no data on refugees in agriculture?
- In Finland women do more and more same farm works than men. Women injury rates have been half less than men.
- Big part of the farmers are coming old > farmers should start farming younger in the future. Average age of farmers is 51 in Finland. Machinery injury risk have found to be higher in starting/young farmers.
- Young workers or children on farms - How to measure or monitor these farm populations? Is there any data? How many child have died on farms last years?
- In UK 2-3 children dies every year (https://www.hsa.ie/eng/Your_Industry/Agriculture_Forestry/Further_Information/Fatal_Accidents/)
Elements of safety culture

- The safety culture of an organisation is the product of
  - individual and group values, attitudes, perceptions, competencies, and patterns of behaviour
  - that determine the commitment to, and the style and proficiency of, an organisation’s health and safety management.

- Organisations with a positive safety culture are characterised by
  - communications founded on mutual trust
  - shared perceptions of the importance of safety
  - confidence in the efficacy of preventive measures.”


Good safety culture on farms sets safety as high priority. It is seen in farm people behavior, attitudes, practices and work activities, which are adopted to farm and farm work in a safe manner.

Leppälä & Van den Broucke 2018
Implementing an effective safety culture involves

• Management commitment
• Visible management
• Good communications between all levels of employee
• Active employee participation
• Training
• Inspection
• Specific documents
• Learning organization - Enforcement and advice

Is this good Safety Culture?
Thank you!

Further information:

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