Worker Respiratory Symptoms and Safety: What are we learning from workers?

This is part of a series of research briefs reporting the findings from the Thoroughbred Worker Health and Safety Study. The goal of this brief is to describe the respiratory health of thoroughbred farm workers and the work factors that may influence worker exposure to potential respiratory hazards. All 225 Latino thoroughbred farm workers who participated in the Thoroughbred Worker Health and Safety Study were asked about self-reported upper and lower respiratory symptoms and the occupational characteristics associated with these symptoms.

Worker Characteristics*

<table>
<thead>
<tr>
<th>Gender</th>
<th>Education</th>
<th>Smoker</th>
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<tbody>
<tr>
<td>86% Male</td>
<td>76% &lt; High school</td>
<td>57% Never smoker</td>
</tr>
</tbody>
</table>

Average Age: 35

Average Length of Time Living in U.S.: 15 years

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- **Gender**: 86% Male
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- **English Understanding**: 26%
- **Smoker**
  - Current smoker: 17%
  - Former smoker: 26%

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**Respiratory Symptoms Reported by Workers**

**Upper respiratory symptoms** (% of workers reporting):
- Nasal irritation: 41%
- Throat irritation: 45%
- Sinus trouble: 24%
- Any of the above: 53%

**Lower respiratory symptoms** (% of workers reporting):
- Cough: 44%
- Wheezing: 6%
- Chest tightness: 9%
- Shortness of breath: 8%
- Difficulty breathing: 7%
- Any of the above: 52%

Any respiratory symptoms: 62%

*A more complete list of worker characteristics may be found in Issue Brief #4. Details regarding language and communication on farms may be found in Issue Brief #7.
Factors Associated with Respiratory Symptoms*

- Workers who used dust masks less frequently experienced 2X the odds of upper respiratory symptoms than those using them more often.
- Females experienced 4X the odds of both lower respiratory symptoms and any respiratory symptoms than males.

*Controlling for: age, sex, education, years living in the US, English understanding, smoking status, time working in barns, dust mask utilization, years working at the farm

What do these findings mean?

- Latino Thoroughbred workers exhibited higher rates of respiratory symptoms than the general U.S. Hispanic/Latino population and other Latino farmworkers. One reason may be that dust in barns could include horse hair/dander, endotoxins, beta 1-3 glucans, and hydrogen sulfide.
- Chronic exposure to these toxins may lead to respiratory irritation and inflammation, shortness of breath, asthma, bronchitis, and allergic reactions as has been found among dairy, poultry, and equine workers.
- Females, due to a smaller lung capacity, may be particularly susceptible. However, they may also be more willing than males to report symptoms.
- Having access to dust masks and using them may help to prevent or reduce respiratory symptoms among workers.

Safety & Management Tips

- Provide N95 dust masks in all tack rooms. Store masks in airtight container to prevent contamination or rodent damage.
- Replace masks when they become soiled, wet, or damaged during use. Replace masks with broken straps or curved valves (if mask has an exhalation valve).
- Encourage workers to wear dust masks in the barns and educate them on the importance of regular use and proper fit of masks for maintaining lung health.
- Model safe behavior by wearing masks yourself.
- Incorporate respiratory safety and health topics in regular meetings and trainings.

Resources

- N95 purchase link: cdc.gov/niosh/npptl/topics/respirators/disp_part/n95list1.html
- General respirator information: cdc.gov/niosh/npptl/topics/respirators/disp_part/respsource.html
- NIOSH bilingual video on fit-testing: www.osha.gov/video/respiratory_protection/fittesting.html
- Caring for your respirator youtube.com/watch?v=yBJoHIug45I

NIOSH N95 model 8210
Price per mask: $0.50 - $1.00

Acknowledgements

We thank the participating farms and workers that made this research possible. This work is supported by the Southeast Center for Agricultural Health and Injury Prevention, University of Kentucky College of Public Health under CDC/NIOSH Cooperative Agreement 5U54OH007547-14. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC/NIOSH.

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