

Pesticides and Sanitation in
the Fields:
Pierson, FL (2007-2008)

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Community-Based Research (Dr. Schorr)

May 6, 2008

Health effects of pesticides

- Acute
 - Eye irritation
 - Skin irritation and/or rash
 - Headache
 - Dizziness
 - Tiredness
 - Nausea/vomiting
 - Diarrhea
 - Chest pain
 - Difficulties breathing
 - Convulsions
 - Etc., etc.

 - Death
- Chronic / Long-Term
 - Cancer
 - Nervous system disorders
 - Organ damage (esp. lungs, liver)
 - Immune system damage
 - Reproduction
 - Female infertility
 - Miscarriage
 - Birth defects
 - Developmental delays

From Saavedra *et al.* (n.d.)

Workers' Rights Laws (1 / 3)

- Worker Protection Standard
 - EPA oversees, enforced by states
 - Requires and regulates...
 - Posting of certain pesticide information
 - Safety poster display
 - Employee training
 - Immediate medical attention after exposure
 - From Flocks *et al.*, 2007

Workers' Rights Laws (2/3)

- Florida Agricultural Worker Safety Act (FAWSA)
 - Renewed in 2004 as part of Alfredo Bahena Act
 - Health & safety info about pesticide used must given to workers upon request
 - “Right-to-know”
 - From Fishel, 2008

Workers' Rights Laws (3/3)

- 2003 Handbook of Employment Regulations Affecting Florida Farm Employers and Workers
 - Sanitation facilities (toilet, handwashing) within 1/4 mile
 - Soap, disposable towels
 - Drinking water -- cold and clean
 - From Polopolus *et al.*, 2002

Details

- Pierson, FL
 - Total workforce, 2000 = 1,825 (census.gov)
 - Much higher than number of farmworkers!
 - Farmworkers in nurseries, ferneries
- 2 sets of surveys
 - March 8 - November 15, 2007
 - March 19 - 28, 2008

Details: 2007 surveys

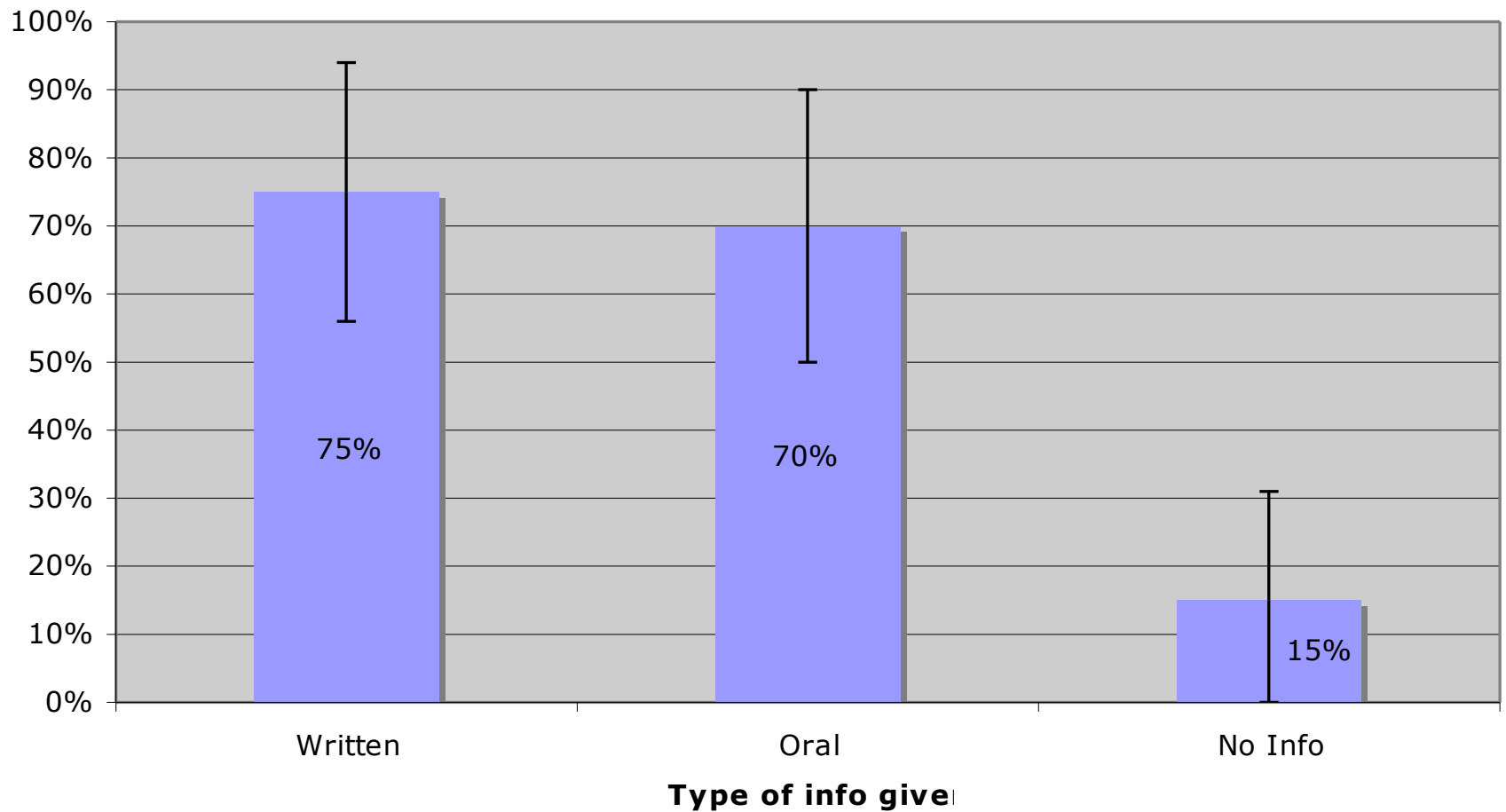
- Interviewee selection
 - Community events
 - Door-to-door surveys in farmworker neighborhoods
- Oral survey, sheet filled out by interviewer
 - Most by Lariza Garzón, NFWM (a few by Gris Avila and Caitlin Maxcy, Stetson students)
 - All fluent Spanish speakers
- 50 usable surveys generated (out of 55)

Details: 2008 surveys

- Door-to-door interviews of farmworkers in Pierson, FL
 - Houses chosen by visual evaluation of whether they were likely to house farmworkers
 - Observations during the survey bore out evaluations
- Questions about pesticide use, pesticide training, availability of facilities, etc.
 - Survey lasted approximately 5 minutes
- Spanish unless interviewee volunteered English (n = 2)
- 2-person teams (at least one fluent speaker)
- 20 surveys completed, all usable

Results

Does your employer give you information about pesticides? (2008 only, n = 20)



3.) Does your employer give you the names of the pesticides used in the fields where you work?
(incl. 2007)

Yes: 40%

No: 60%

*(n = 67,
error = $\pm 12\%$)*

4.) Has your employer given you training on protecting yourself from pesticides? (incl. 2007)

Yes:	83%	<i>n</i> = 69, <i>error</i> = ±9%
No:	17%	

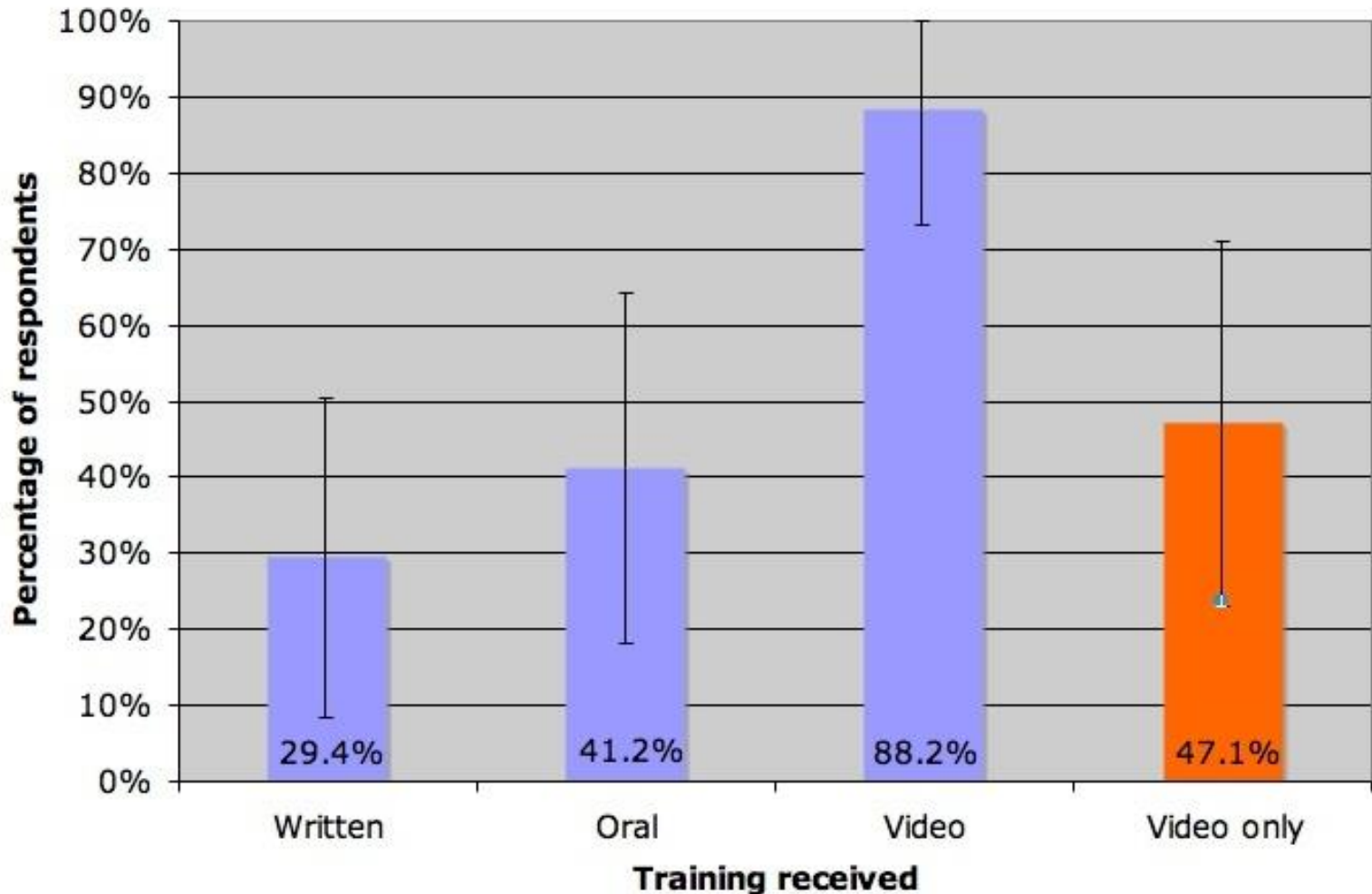
4e.) If trained, within the last 5 years? (2008 only)

Yes:	82%	<i>n</i> = 17, <i>error</i> = ±18%
No:	18%	

30% of 2008 workers have either never been trained or haven't been trained within the last 5 years.

(n = 20, error = $\pm 20\%$)

4a-c.) If you received training, what type was it? (2008 only)



4d.) Was the training you received in a language you could understand?

(2008 only;

n = 17, error = $\pm 18\%$)

Yes:	82%
No:	0%
Translator present:	18%

5.) Does your employer inform you of the re-entry time after pesticides have been applied? (2008 only)

Yes:	78%	<i>(n = 18, error = ± 19%)</i>
No:	22%	

6.) Where you work, is there a sign indicating the date and time of safe re-entry? (2008 only)

Yes:	40%	<i>(n = 20, error = $\pm 21\%$)</i>
No:	60%	



7.) Does your company apply pesticides with workers in fields?

(2008 only, n = 20, error = $\pm 17\%$)

- Yes = 20%
- No = 80%

11.) Does your supervisor allow children in the work area?

(2008 only, n = 20, error = $\pm 22\%$)

- Yes = 0%
- No = 100%

Exposure to Pesticides (1 / 3)

10.) Have you ever worked in an area that was wet with pesticides, or that had a white residue?

- Results (2008 only, n = 20, error = $\pm 22\%$)
 - Yes: **50%** (n = 10)
 - No: 50%
- Any complications or sicknesses?
 - Complications: **YES = 100%**
 - Sicknesses: **YES = 50%**
 - Swollen hands, swollen face, rash (2), eye irritation (2), nausea, body pain (“even hair hurts”)

Exposure to Pesticides (2/3)

8.) Have you ever been sprayed with pesticides while working in the fields of the company where you work now?

- Results (2008 only, n = 20, error = $\pm 16\%$)
 - Yes: **15%** (n = 3)
 - No: 85%
- Complications or sicknesses after being sprayed?
 - Complications: **YES = 100%**
 - Sicknesses: **YES = 67%**
 - Rash, swollen hands, nausea, eye irritation, body pain

Exposure to Pesticides (3/3)

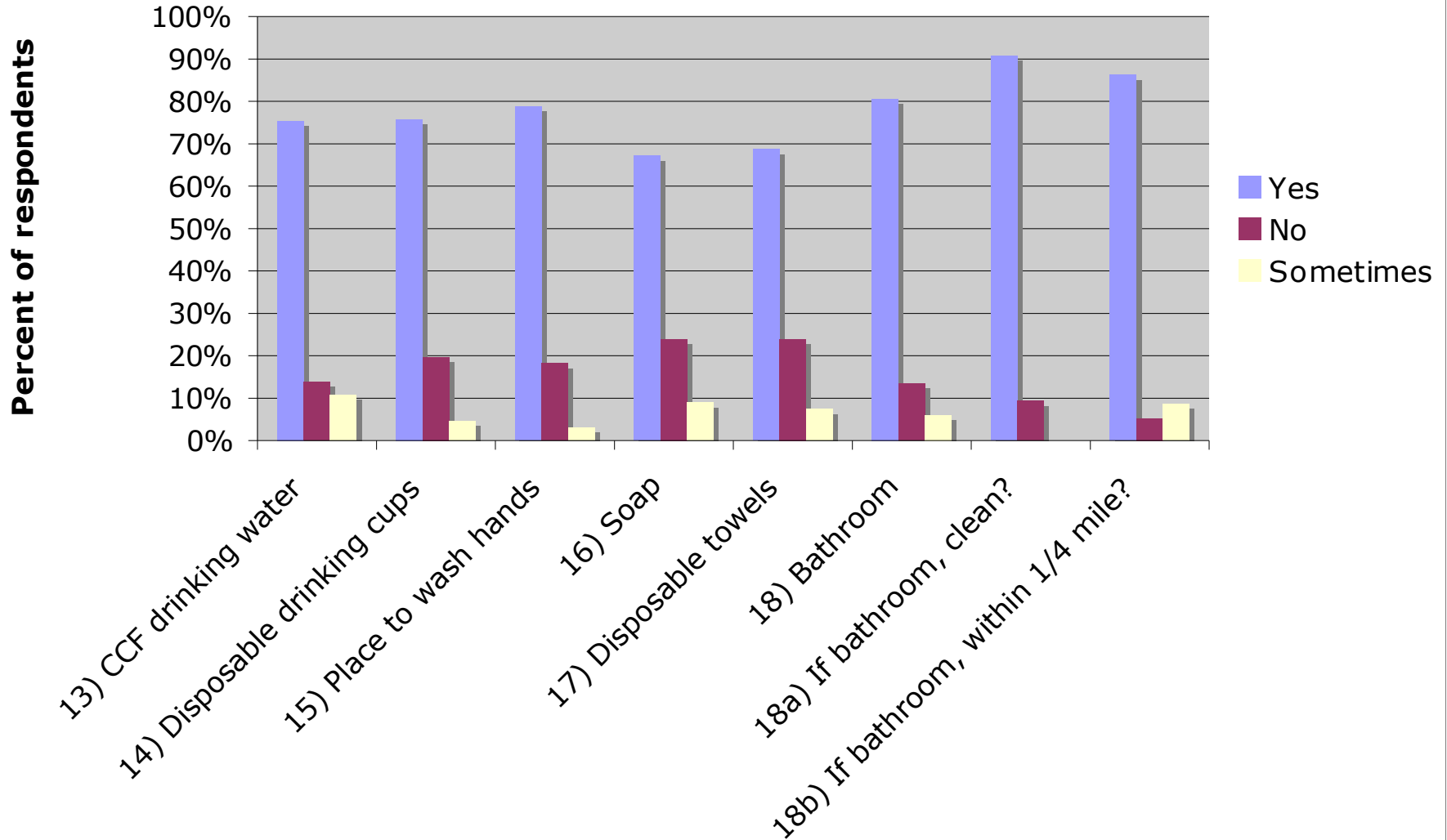
8a.) If sprayed, did you notify your supervisor?
(2008 only, n = 3 [of 20], error = $\pm 21\%$)

- Yes: 67% (n = 2)
- No: 33% (n = 1)

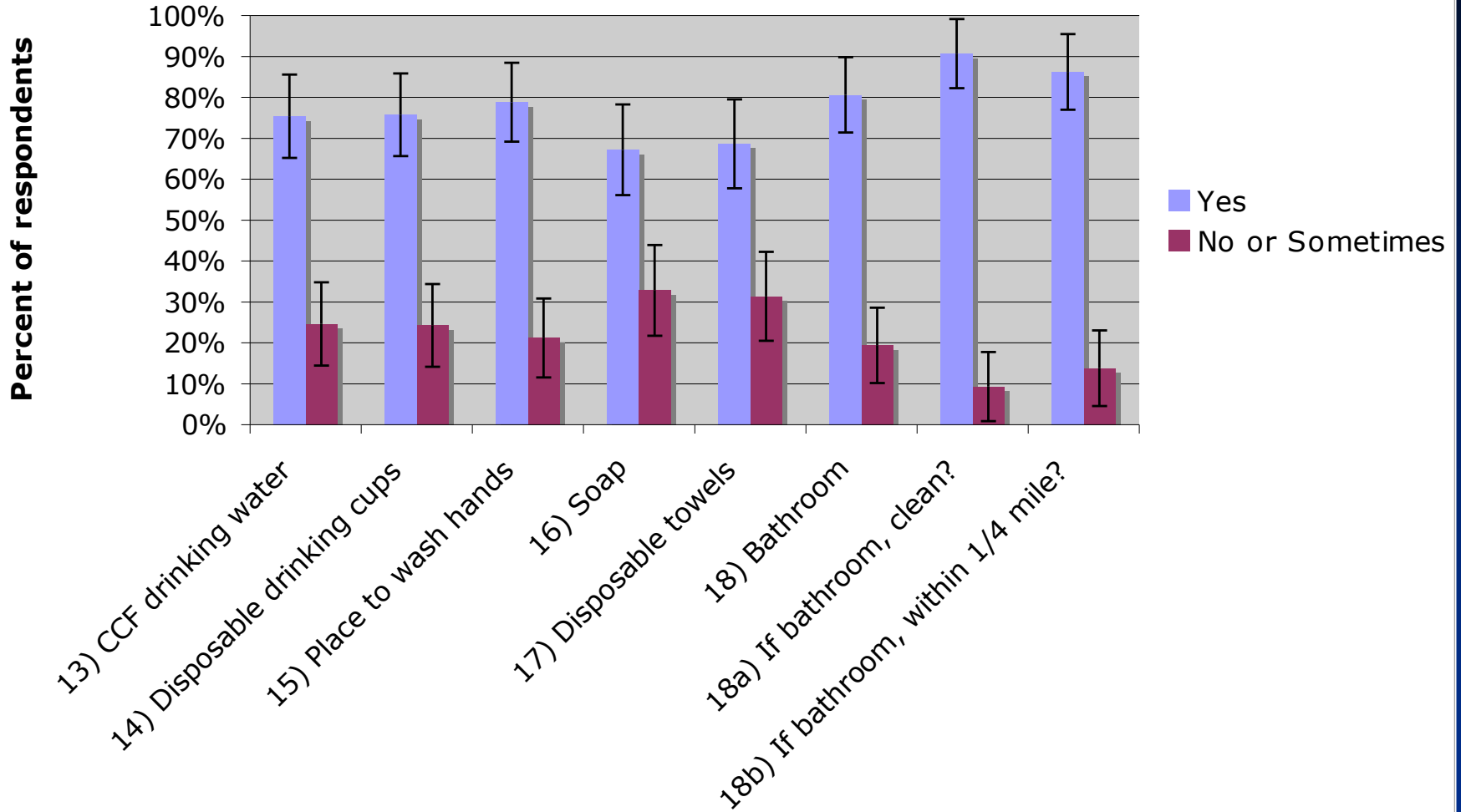
8b.) If you notified your supervisor, did they offer you immediate medical attention? (2008 only, n = 2 [of 20], error = $\pm 22\%$)

- Yes: 50% (n = 1)
- No: 50% (n = 1)

FAWSA compliance



FAWSA compliance



Interesting Points

- Questions regarding pesticide laws (5)? Average violation rate = **22%**
 - Sign with date & time: **60% violation**
 - Allowing kids in work area: **0% violation**
- Questions regarding sanitation laws (8)? Average violation rate = **22%**
- Average “disappointing answer” for major questions ($n \geq 17$) = **33%**
- Employers
 - Most violations: **8**, Ronald Jones Ferneries
 - Most violations or disappointments: **12**, D.L. Hansen Ferneries
- No apparent impact of training or information on contact ($p = 0.105$)
 - Direction of difference weird for training

Drift Catcher

- Measures pesticide concentrations in air
- Pesticide Action Network North America (PANNA)
 - Kit for 1 week of air sampling
 - Lab analysis
- Allows communities to show that pesticides are escaping fields



Drift Catcher

- Sampling last year in Seville, FL
- Fernery within 50 m of a daycare
- Chlorpyrifos!
 - Developmental delays (Rauh *et al.*, 2006)
 - Many other toxicities



Acknowledgements & Thanks

- Carolina, Caitlin & Gris
 - Dr. Schorr
 - Esteban
 - Lariza
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- National CBR Networking Initiative

References

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