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## Monthly Safety Blast

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*Produced by the Southwest Center for  
Agricultural Health, Injury Prevention and Education*

### Heat Acclimatization: Get Used To It!

It's only June and temperatures are already reaching triple digits in the Southwest United States. For outdoor workers, the heat is more than uncomfortable; it can pose a deadly threat. Farmers, loggers, foresters and commercial fishermen all spend a considerable part of their work day outside. Not to mention, agricultural work can also be very labor intensive and require workers to exert considerable energy. Did you know that the heat related death rate for crop workers is 20 times higher than the overall U.S. worker rate? (Luginbuhl et al., 2008) Several factors contribute to this elevated death rate including exposure, exertion (both mentioned above), and inadequate acclimatization.

#### *What is acclimatization?*

Heat acclimatization is a temporary physiological adaptation that improves tolerance and dissipation of heat with repeated exposure to hot environments. (Jackson & Rosenberg, 2010; OSHA, 2011) You may have heard people say that you have to 'get used to' the heat. They're right!

#### *Why should you acclimatize?*

Acclimatization helps the body tolerate hot temperatures in the following ways:

- Lesser increase in body temperature
- Lesser increase in heart rate
- Sweating starts sooner
- Sweat is more dilute (you lose less electrolytes)
- Sweating increases in volume
- Less perceived discomfort

#### *How do you acclimatize?*

Acclimatization can take from 4 to 14 days. Recommendations from the American Psychological Association are described in the tables below. The top table shows the percentage of the full work assignment that should be given to experienced outdoor workers and new outdoor workers. The bottom table outlines the re-acclimation schedule for workers who have been away from outdoor work due to illness or other routine absence (vacation).

Generally, individuals in good physical condition acclimatize more quickly than those in poor physical condition. Personal factors also influence the body's ability to acclimatize, including alcohol consumption and pregnancy.

Day	Activity (% of full work assignment)	
	Experienced	New
Day 1	50%	20%
Day 2	60	40
Day 3	80	60
Day 4	100	80
Day 5		100

  

Re-acclimation Schedule					
Days Away from Heat-Related Schedule		Exposure Sequence (% of full work assignment)			
Routine Absence	Illness	Day 1	Day 2	Day 3	Day 4
<4	—	100%			
4-5	1-3	R/E*	100%		
6-12	4-5	80	100%		
12-20	6-8	60	80	100%	
>20	>8	50	60	80	100%

Bottom line: Take care of yourself and take the time to get used to the heat!

#### Heat Safety Resources

- OSHA Heat Safety Fact Sheet; [http://www.osha.gov/SLTC/heatillness/3422\\_factsheet\\_en.pdf](http://www.osha.gov/SLTC/heatillness/3422_factsheet_en.pdf)
- Occupational Heat Exposure; <http://www.osha.gov/SLTC/heatstress/>
- Heat Safety Tool App (Android, iPhone); [http://www.osha.gov/SLTC/heatillness/heat\\_index/heat\\_app.html](http://www.osha.gov/SLTC/heatillness/heat_index/heat_app.html)
- Heat Wave Safety; <http://www.redcross.org/prepare/disaster/heat-wave>

#### References

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