



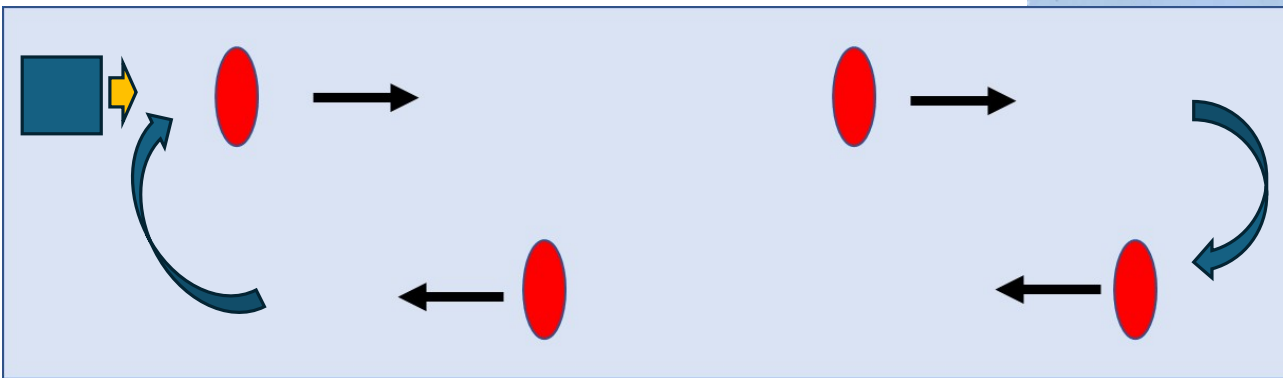
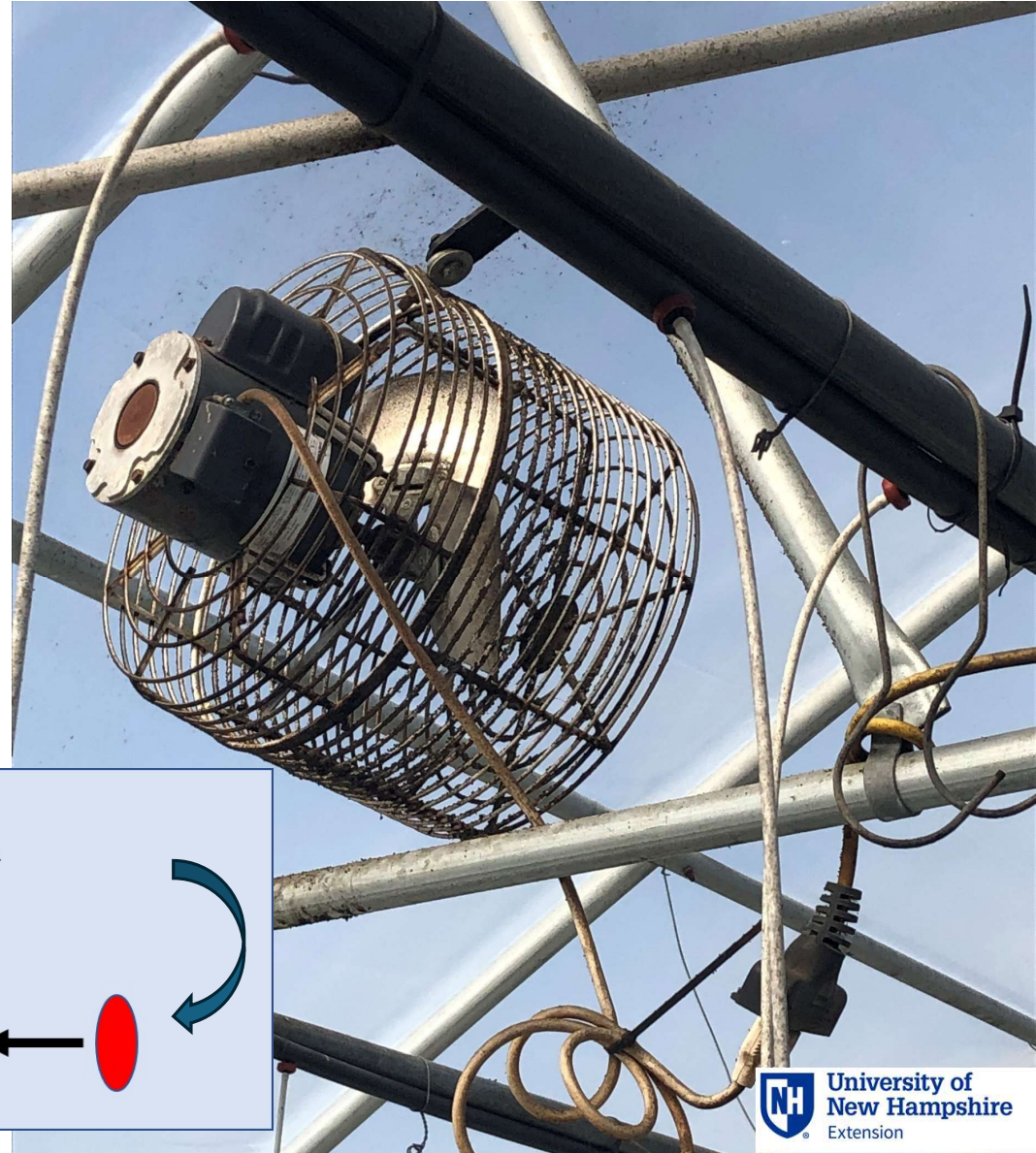
High Tunnel Ventilation & Airflow

Jonathan Ebba- UNH Cooperative Extension
UVM/ VVBGA 2026

Airflow- Importance



Horizontal Air Flow (HAF)



HAF specs

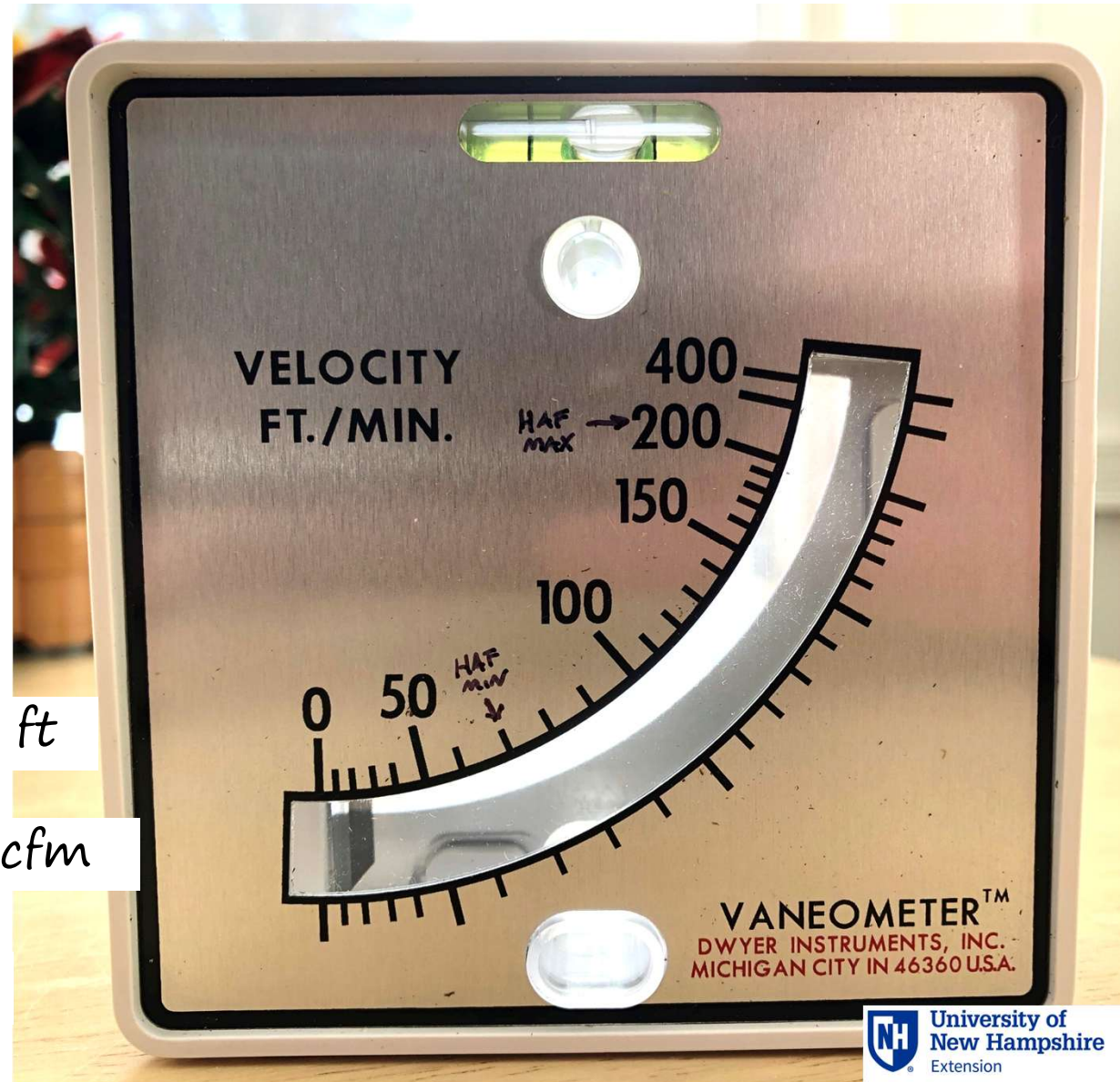
air speed (70-200
fpm; (1-2mph))

CFM: $\frac{1}{4}$ volume of
greenhouse

$30' \times 96' \times 8' = 23,000$ cubic ft

$23,000$ cubic ft $\times \frac{1}{4} = 6,000$ cfm

need (4) 1,500 cfm fans

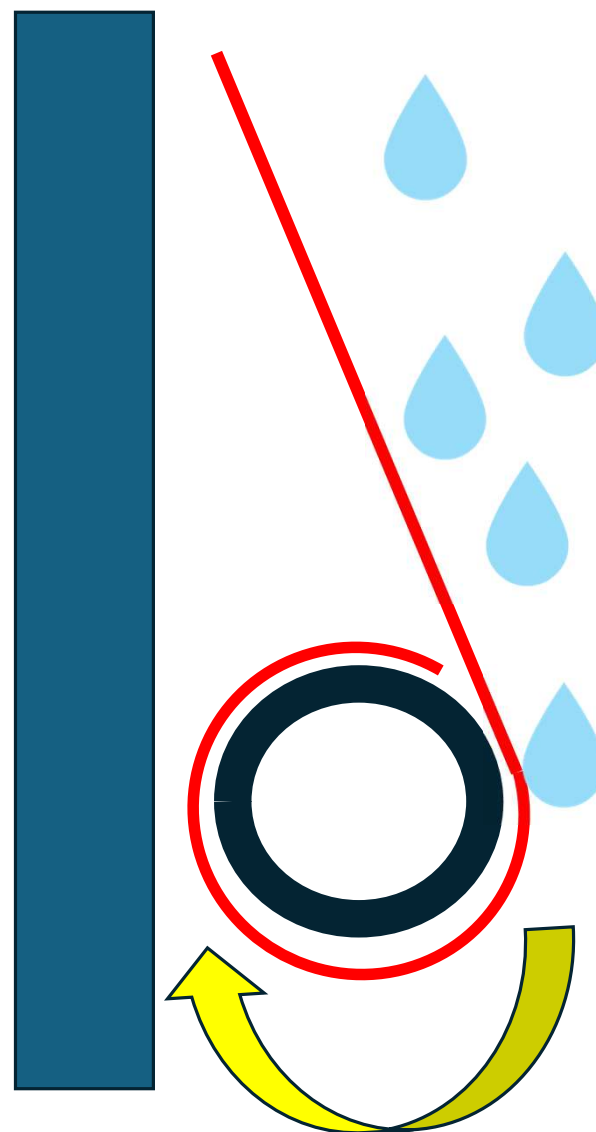
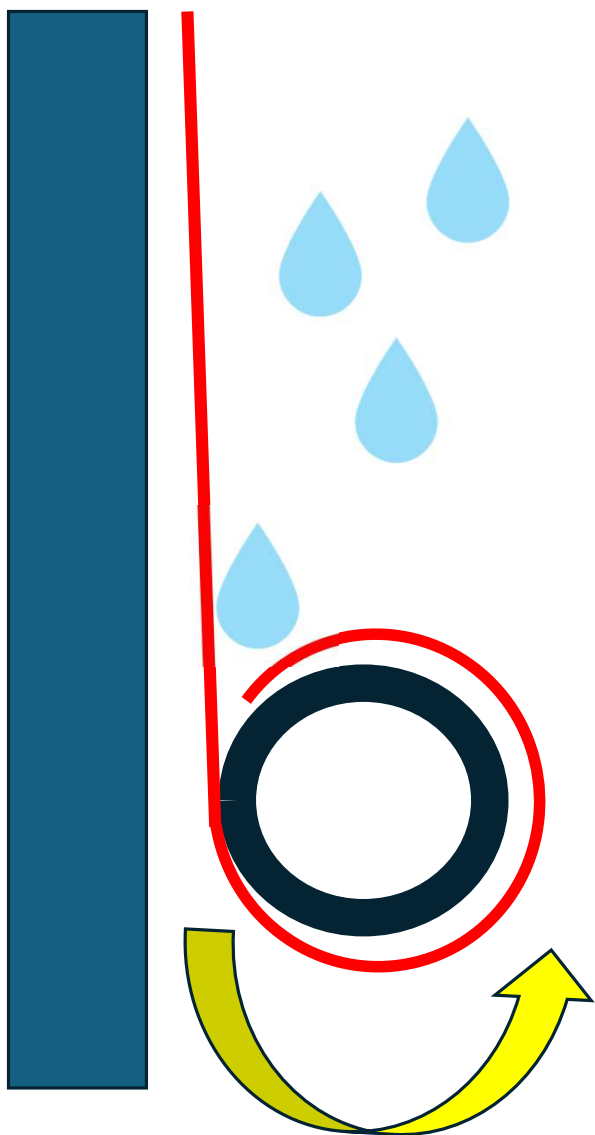


ventilation



roll up sides





active ventilation

1 exchange per minute

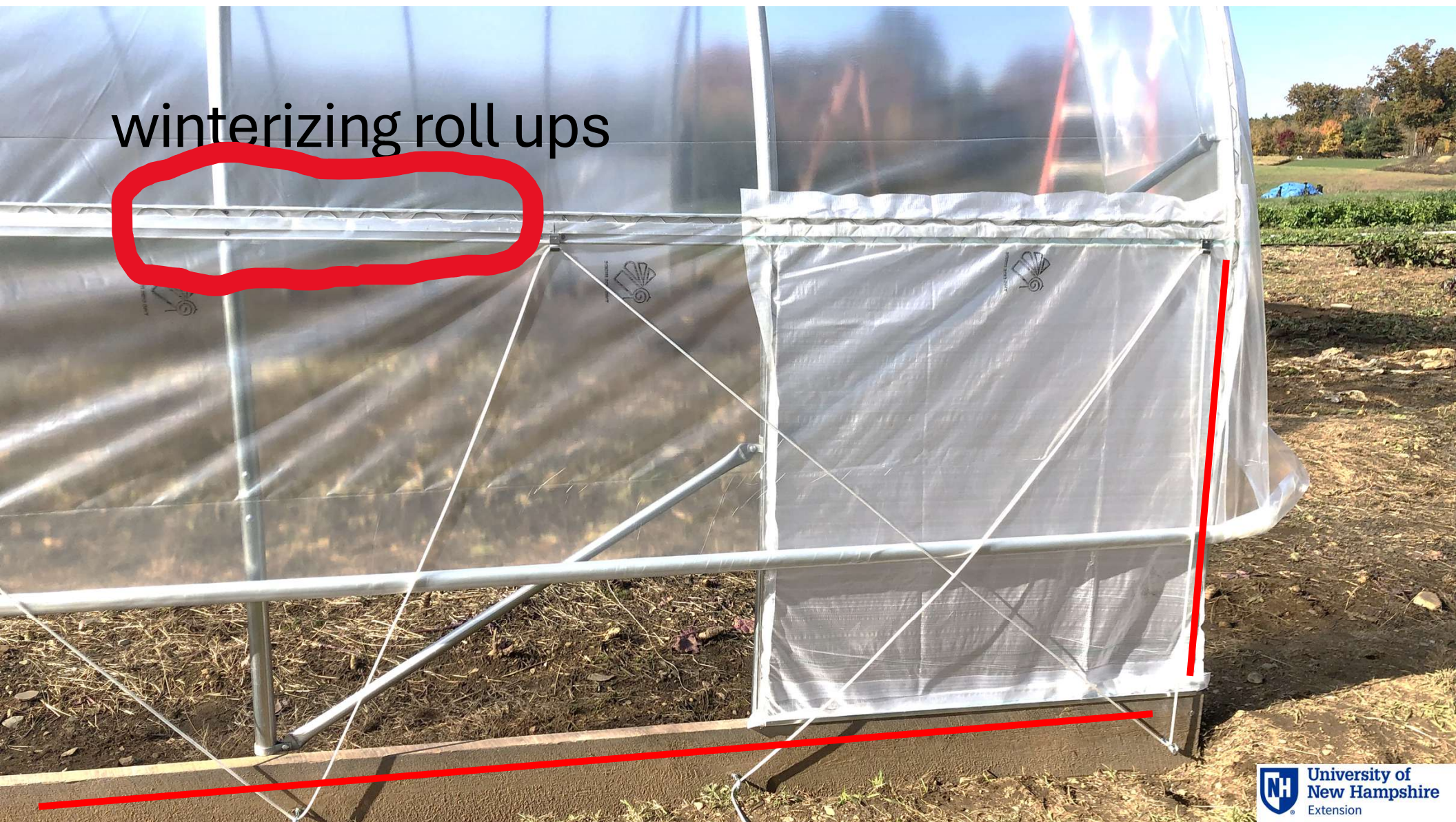
active ventilation



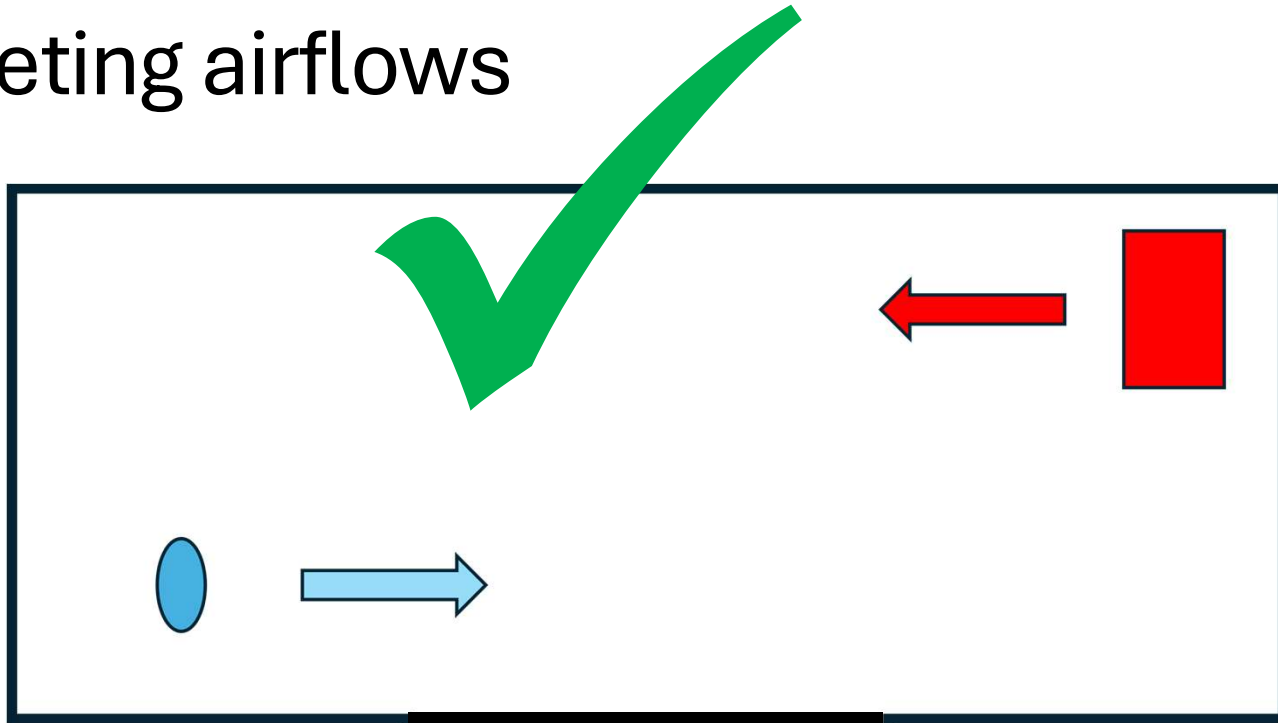
winter cooling with roll ups?

$\frac{1}{4}$ exchange per minute

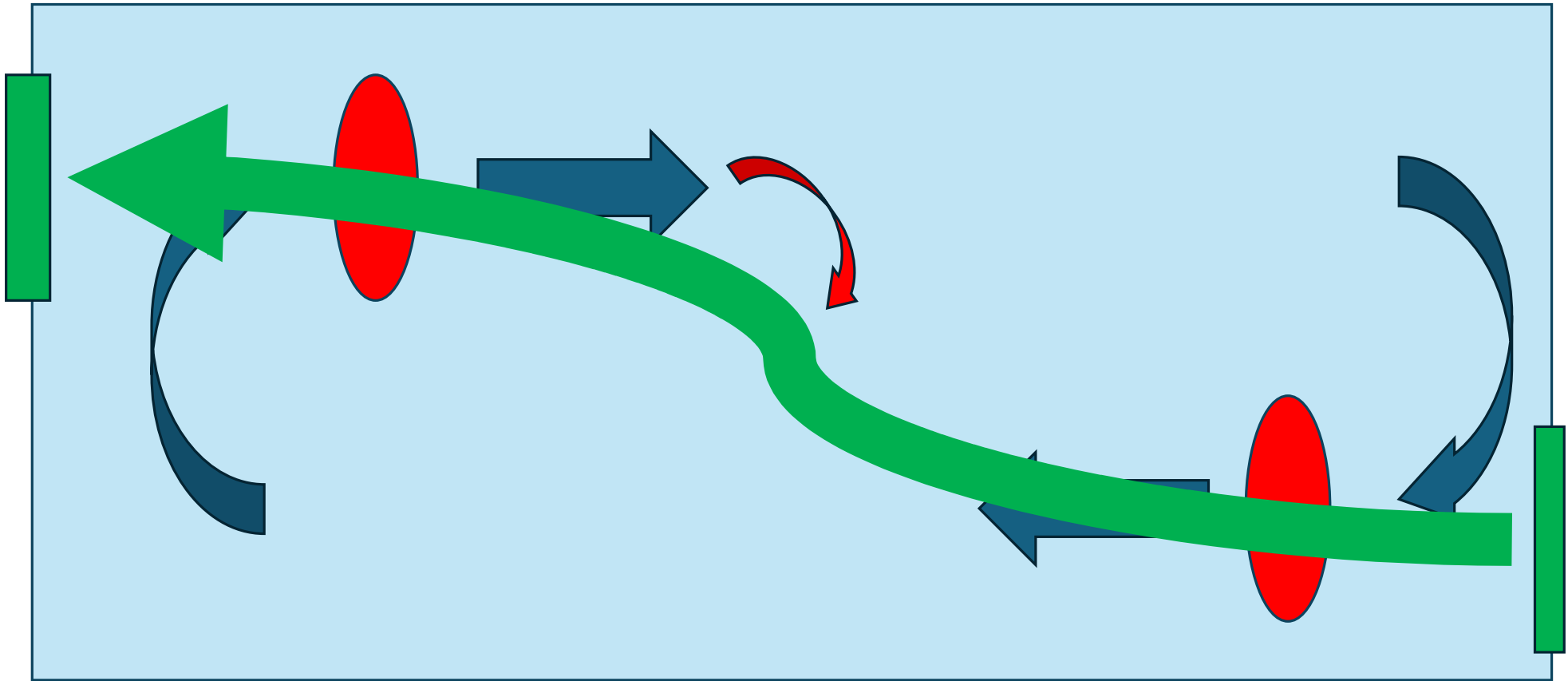
winterizing roll ups

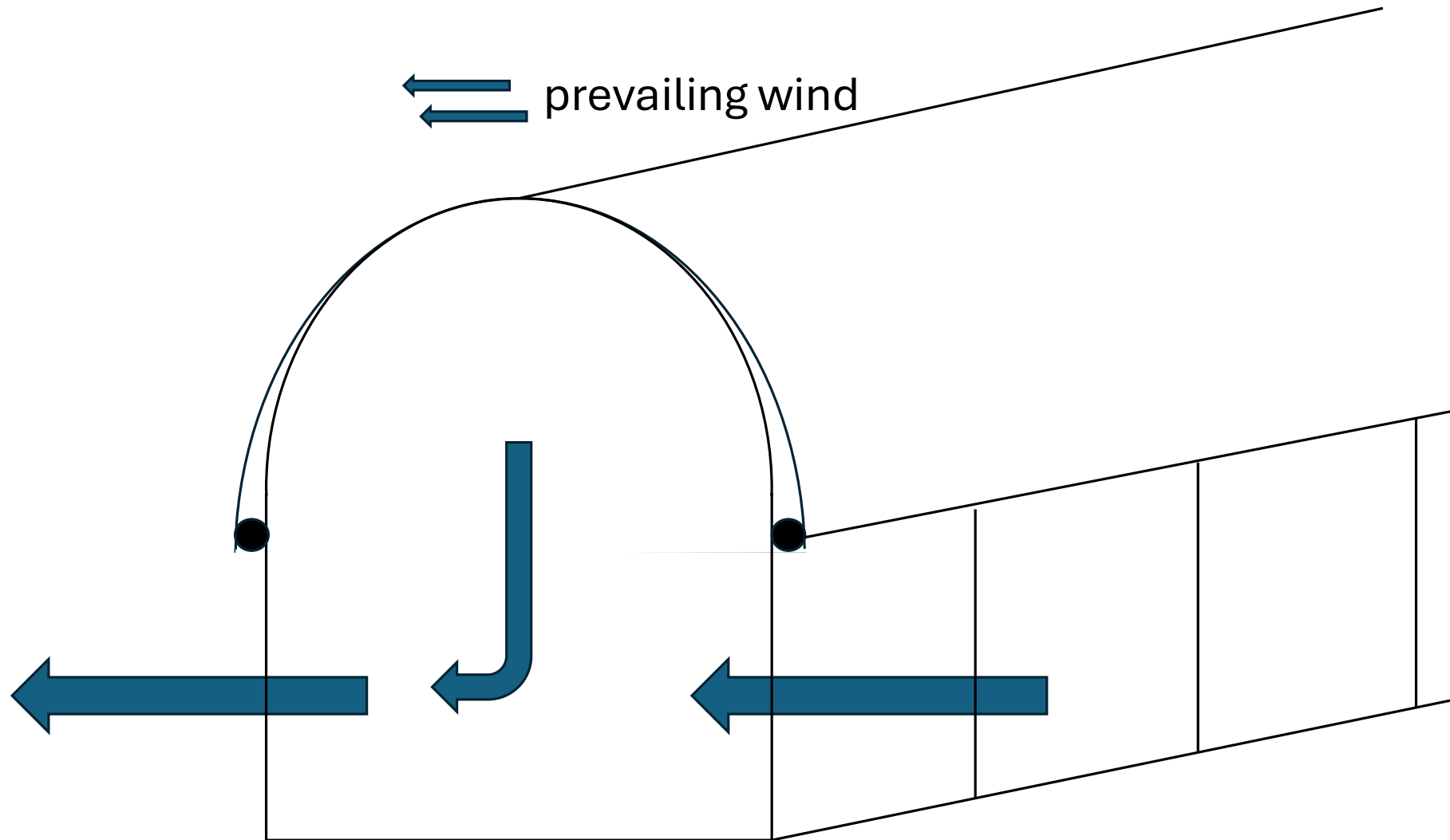


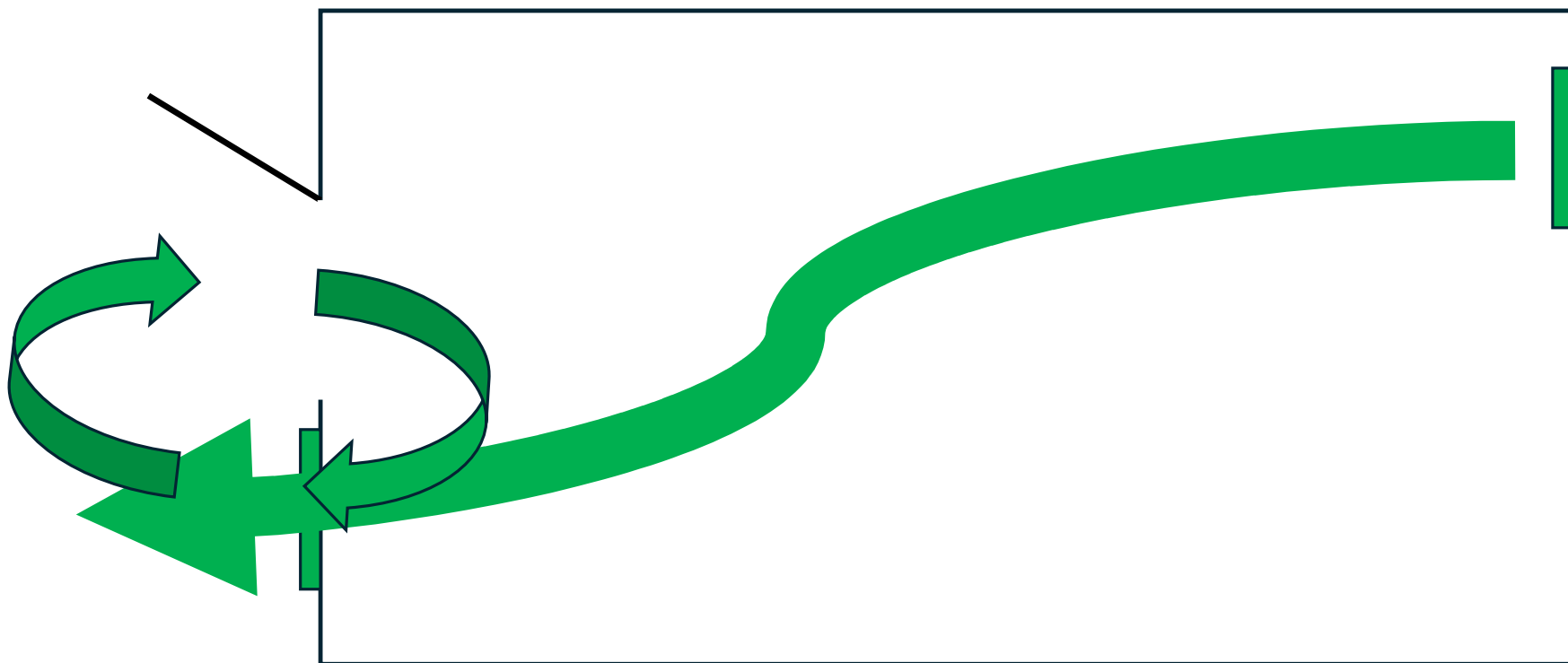
Competing airflows

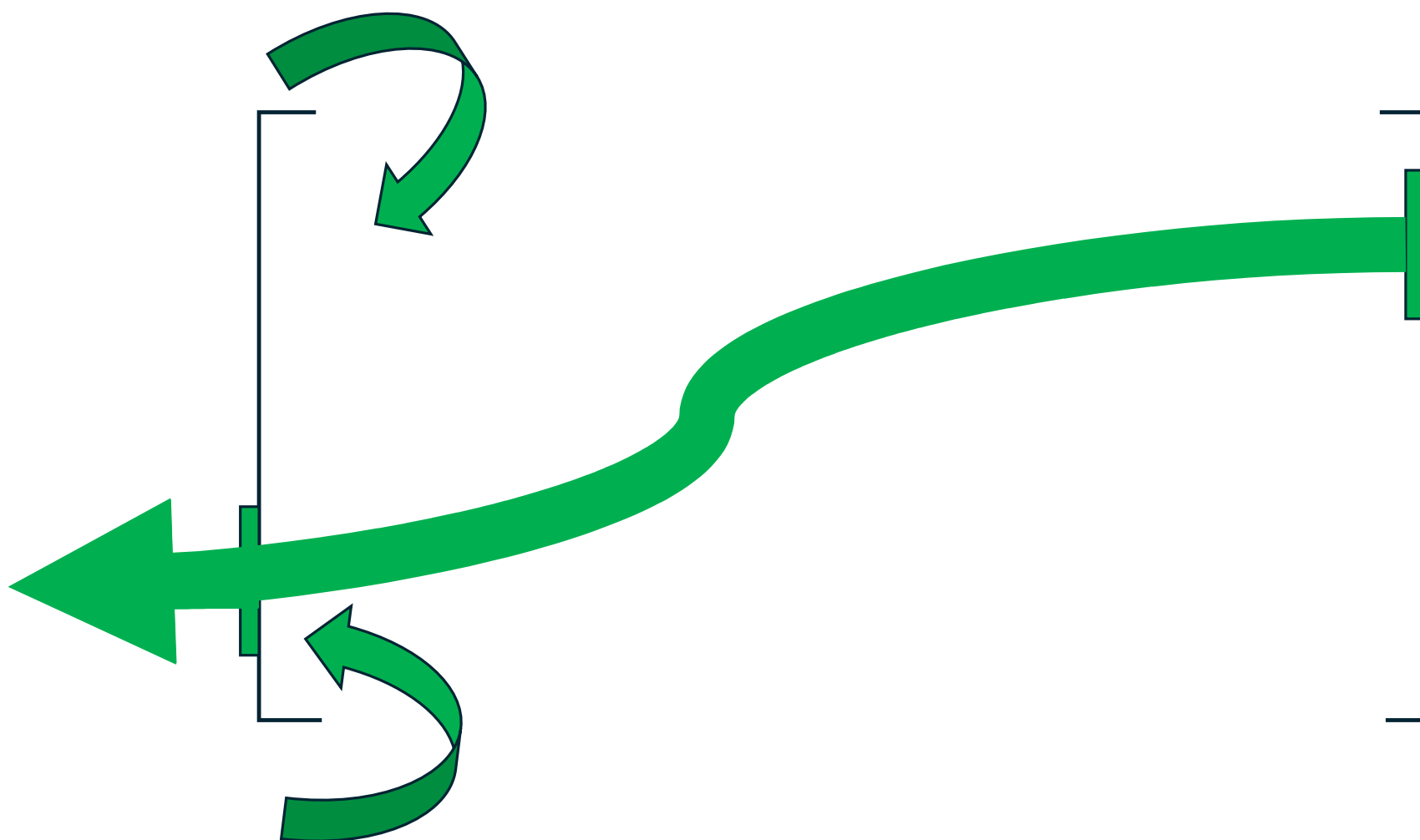


Competing airflows



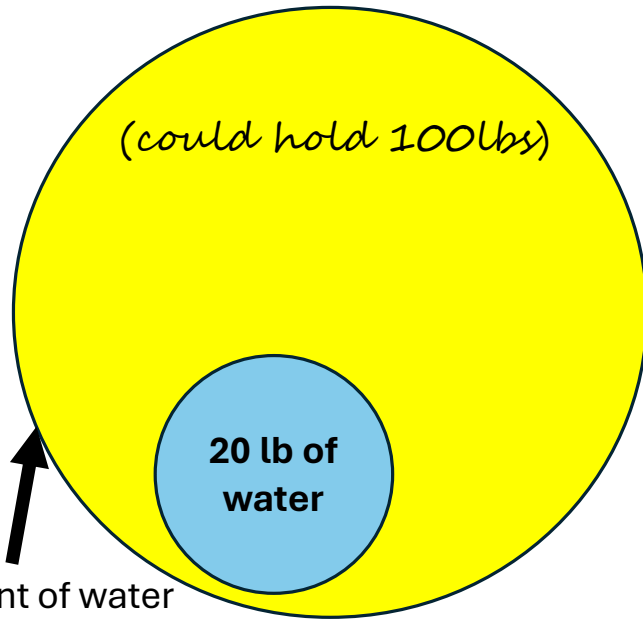




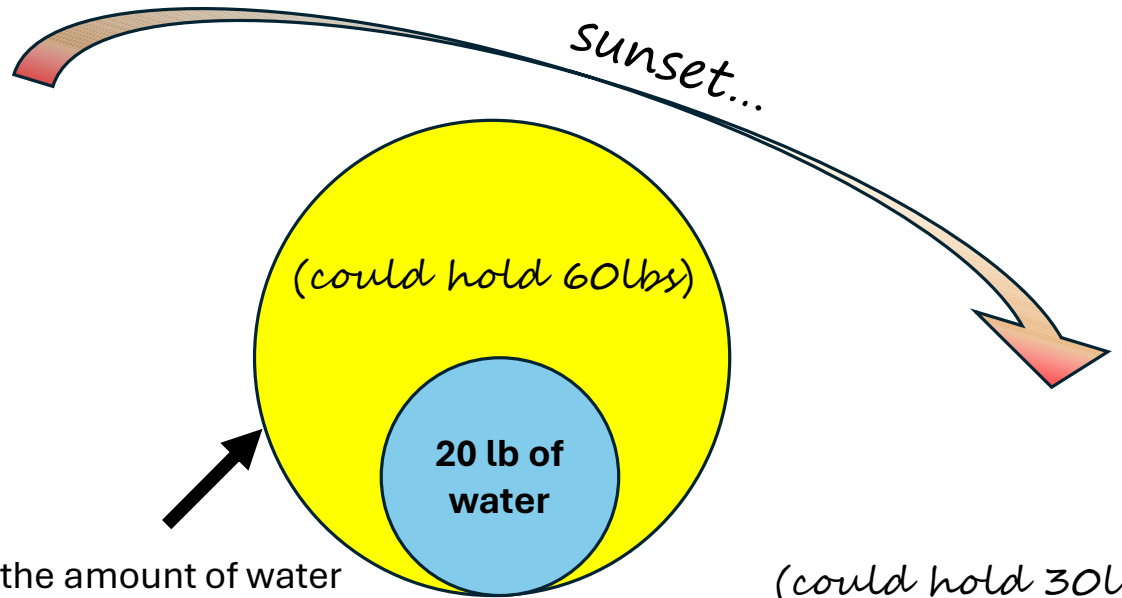




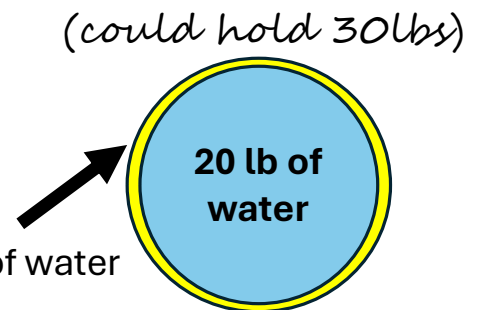
humidity



the amount of water
the air in the
greenhouse can hold
at **90 °F**

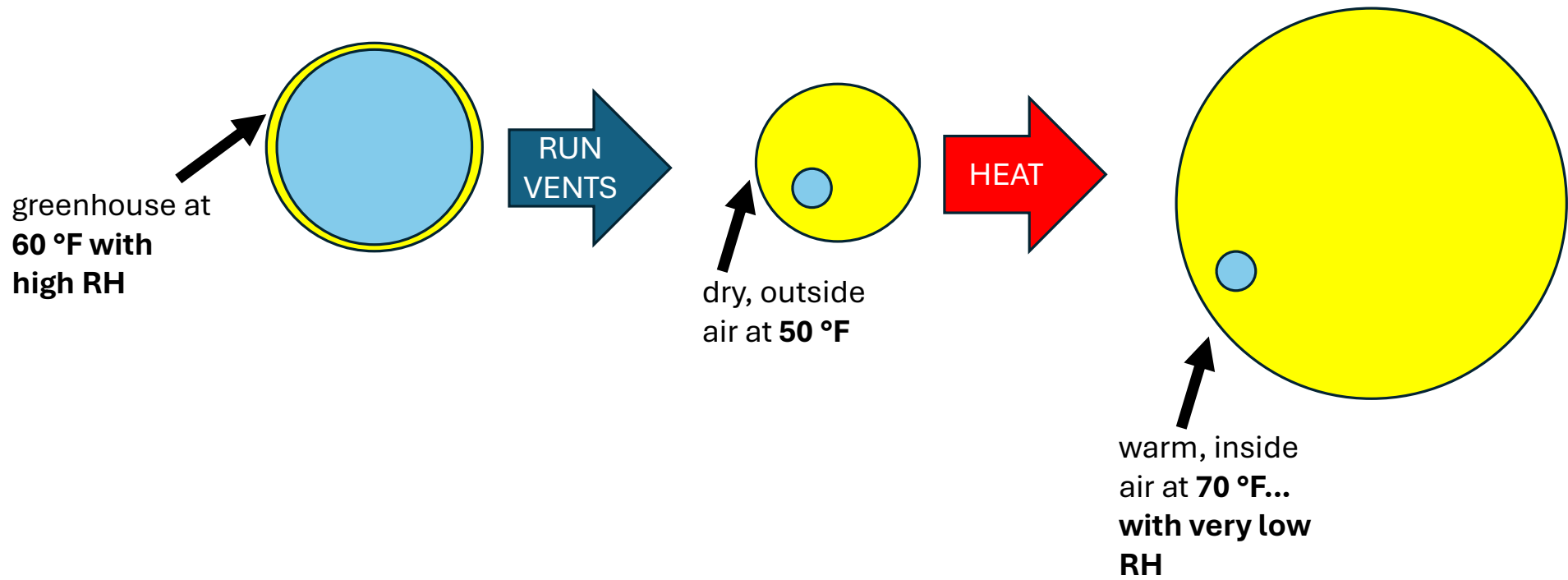


the amount of water
the air in the
greenhouse can hold
at **70 °F**



the amount of water
the air in the
greenhouse can hold
at **60 °F**

relative humidity (conceptually)



controlling humidity by venting/
heating



problem: humidity leads to disease



Photo Credit: Cornell University

