



RUTGERS

Climate Institute

Climate Change and the Horse Industry

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Normal Response:

- **↑ sweating rate**
- **↑ respiratory rate**
- **Blood moves to capillaries under the skin**

When Excessive:

- **No sweating (Anhidrosis)**
 - Skin will be hot and dry
 - Horse lacks major cooling system - evaporation
- **Rapid HR**
 - 50 + at rest
- **Rapid breathing**
 - 20 + at rest
- **High rectal temperature**
 - 104 ° F

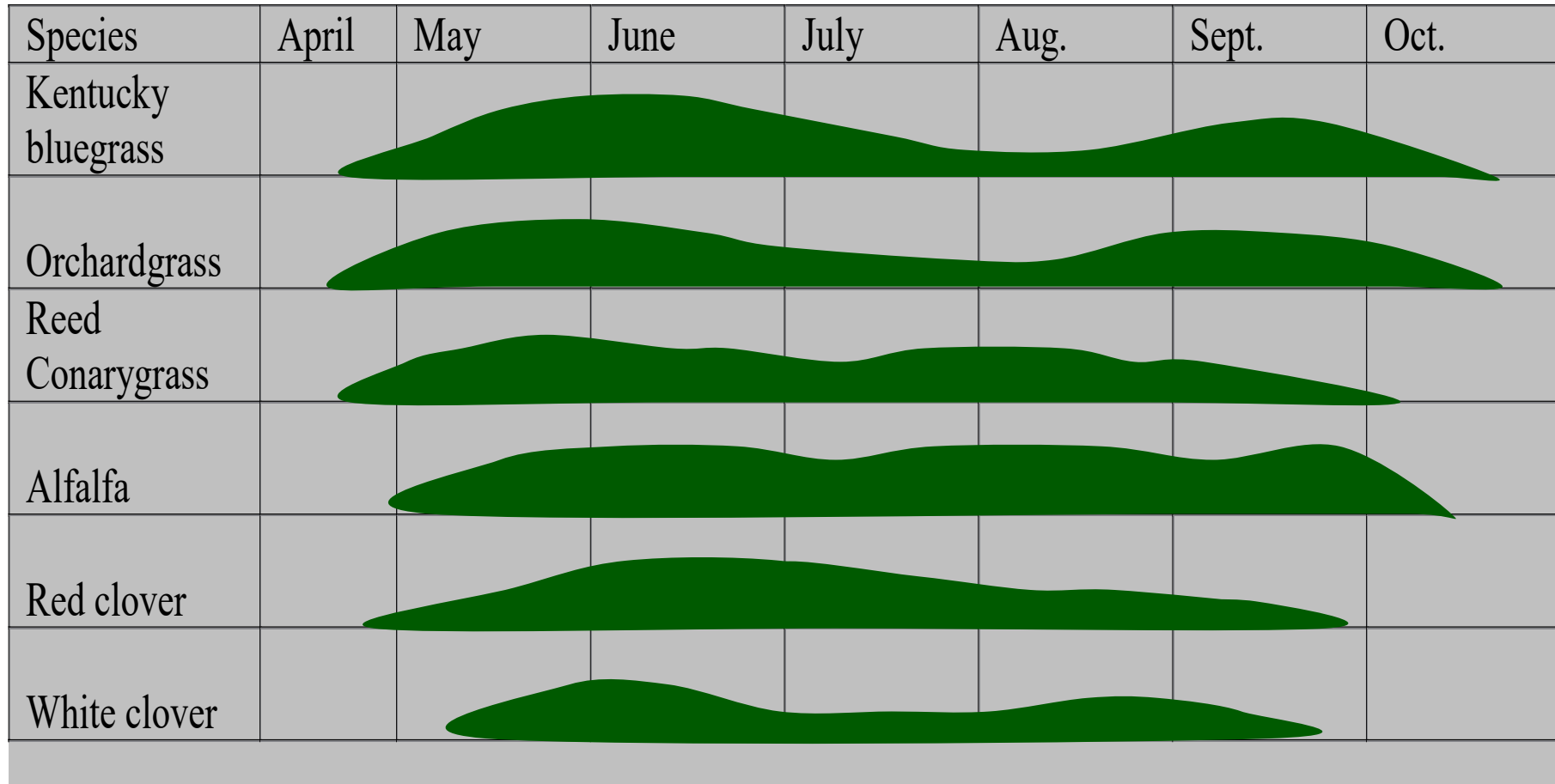
• Prevent by:

- Provide regular electrolytes in hot weather
- ↓ the amount of grain and ↑ the forage
- ↑ fat in the diet
- Properly cool down after exercise
- Provide plenty of ventilation



- **Horses fight cold weather by using more energy to stay warm**
 - You would have to supply 2 lb of feed for each 10 °F below critical temp to replace energy lost during thermoregulation
- **If snow melts on his back instead of accumulating heat loss is occurring**
- **Prevent by:**
 - Precondition horse for COLD WEATHER
 - Feed free choice grass hay
 - Provide shelter from wind, rain and cold
 - Blanket horses not 'allowed' in shelters or ones that are clipped





- **Cool season grasses will have shorter growing season**
- **Grazing season will shorten**
- **Greater need for hay or other forage alternatives**
- **Could cause shortage of hay as well?**



- **When climate is not conducive to making hay or growing pasture alternative sources might need to be fed**
- **Forage Alternatives Include:**
 - *Processed Hay cubes/pellets/chaff* – bagged by feed companies and have a consistent nutrient content, and guaranteed supply
 - *Beet Pulp* – becoming more \$\$ but consistent content and easily digestible
 - *Bran (wheat or rice)* – not recommended as a large source of forage, but can help increase fiber in the diet
 - *“Complete” Feeds* – usually in pelleted form that contain 100% of the horses nutrient needs
 - Problem is most of these cannot be fed in large enough quantities to satisfy the horse’s need to chew
 - May create boredom problems like wood chewing, eating toxic plants
 - Should have some forage fed with them

