

# BIO-SERV

ISO 9001:2008 CERTIFIED

**PROVIDING SOLUTIONS.....**

- **NUTRITIONAL**
- **ENRICHMENT**
- **MEDICATED**
- **SPECIAL NEEDS**

***Proud to be  
working with  
you!***



***Distress*** is an aversive state in which an animal is unable to adapt completely to ***stressors*** and the resulting ***stress*** and shows ***maladaptive behavior***. Holden 2000

**Stress leads to distress to maladaptive behavior:**

- \* Unrelieved pain
- \* Anxiety and fear
- \* Social deprivation
- \* Boredom
- \* Inappropriate housing or husbandry practices.

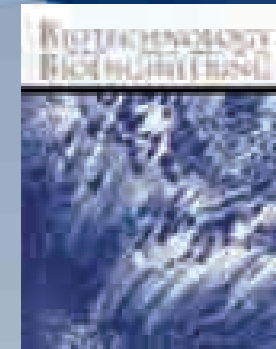
- **Stress affects liver function** *Ibrahim 1997*
- **Stress affects genetics** *Silver 1995*
- **Stress affects lactation** *Gammie 2006*
- **Stress affects cancer growth** *U of Texas 2006*
- **Stress affects neurological disorders** *Zeigler 2005*
- **Stress affects immunity** *Plotnikoff 2007*
- **Stress affects aggression** *Matsumoto 2005*
- **Stress affects metabolism rate** *Moberg 2000*
- **Stress affects growth** *Moberg 2000*



**Environmental enrichment can be defined as altering the living environment of captive animals in order to provide opportunities to express more of their natural behavioral repertoire. It is widely acknowledged that allowing animals to perform the widest possible range of behaviors has been shown to reduce stereotypic behavior in captivity .**

**Ödberg 1987  
Reinhardt 2006  
et al**

The University of Utah  
Eccles Institute of Human Genetics



**INTRODUCING.....Dr. George Lezin**



# QUESTIONS/DISCUSSION

