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IN MEMORIUM





Dr. Craig Mabray, United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) Veterinary Medical Officer and Kennel Specialist, and Dr. Steve Thompson, head of the Purdue Pet Wellness Clinic initiative and clinical associate professor in the Department of Veterinary Clinical Sciences lead discussion on canine dentistry and health.

Dr. Craig Mabray, USDA APHIS Animal Welfare Center

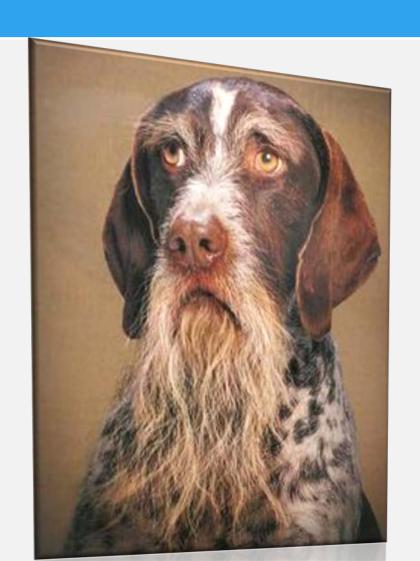
BEHAVIOR & WELFARE CONSIDERATIONS IN REHOMING BREEDING DOGS

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HTTP://VET.PURDUE.EDU/CAWS/



RETIRING AND REHOMING BREEDING DOGS: DISTINCTIONS

- ALL BREEDING DOGS WILL RETIRE
- CAN THEY BE SUCCESSFULLY REHOMED?



COMMON COMPLAINTS/CHALLENGES WITH RETIRED BREEDING DOGS

- UNANTICIPATED HEALTH CARE
 COSTS
- GLOBAL FEARFULNESS
 - LACK OF SOCIALIZATION

- HOUSEBREAKING ISSUES
- LACK OF TRAINING
- FINICKY EATING

STRESSORS EXPERIENCED BY RETIRED BREEDING DOGS

Why do these problems occur?









BEHAVIORAL AND MENTAL WELLNESS

Do the dogs have what they need?

- Space
- Social interactions
- Exercise
- Enrichment
- Ongoing socialization



QUALITY OF EARLY ENVIRONMENT

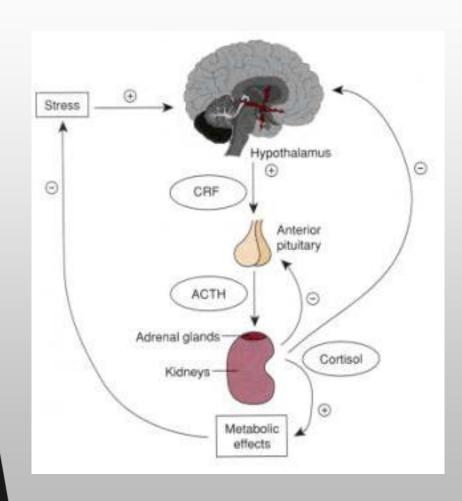


"My advice is to learn all the tricks you can while you're young."

EFFECTS OF MATERNAL STRESS DURING PRENATAL PERIOD

- FETAL DEVELOPMENT
- EFFECTS OF STRESS
 - ↑ CORTISOL
 - CHANGES 'SET POINT' HPA AXIS

How can we accurately assess and address dam welfare in kennels?



SOCIALIZATION

- GRADUAL, CONTROLLED EXPOSURE TO VARIOUS ENVIRONMENTAL STIMULI
 - TEACHES APPROPRIATE BEHAVIORAL RESPONSES, SOCIAL SKILLS AND POSITIVE EXPERIENCES



Ideally requires introduction to as many different people, things, animals, places, and experiences as possible

SOCIALIZATION AND BEHAVIORAL WELLNESS

Well socialized dogs are less likely to be fearful, aggressive or difficult to handle.



ADULT SOCIALIZATION



- OFTEN, FOCUS IS ON PUPPIES
 - ONGOING PROCESS
 THROUGHOUT THE DOG'S
 ADULT LIFE

Especially important for breeding animals intended for re-homing

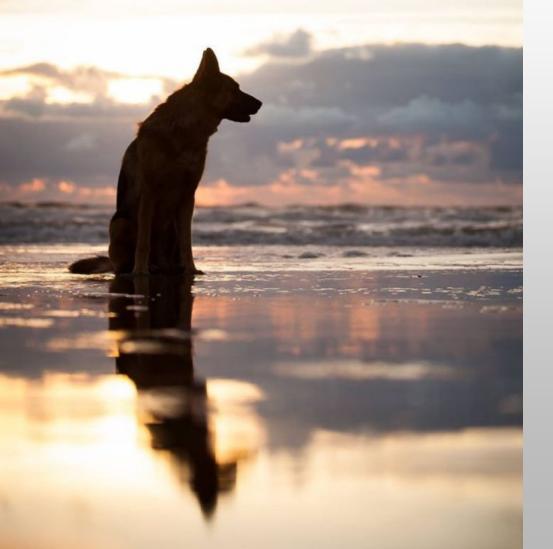
Enrichment: a critical tool for building on socialization

- SOCIAL ENVIRONMENT
 - GROUP HOUSING, HUMAN-ANIMAL INTERACTIONS
- NUTRITIONAL ENVIRONMENT
 - FEEDING METHOD
- PHYSICAL & SENSORY ENVIRONMENT
 - LANDSCAPING, SPACE, TOYS









SETTING RETIREMENT & REHOMING CRITERIA?

Decision tree needed: triage accordingly

- AGE
- WELFARE STATUS
 - HEALTH
 - GENETIC ISSUES
 - BEHAVIOR

Retire Transition for retirement

Re-assess prior to rehoming decision Transition for rehoming



What training and transitioning is needed?

SPECIAL NEEDS OF RETIRED BREEDING DOGS



- Physical health monitoring
- Behavioral support
- One on one caretaker interactions
- Secure resting area
- Positive, reward-based training
 - All aversive techniques caused aggression in some dogs (Luescher, 2016)



Social facilitation/stress buffering via other dogs

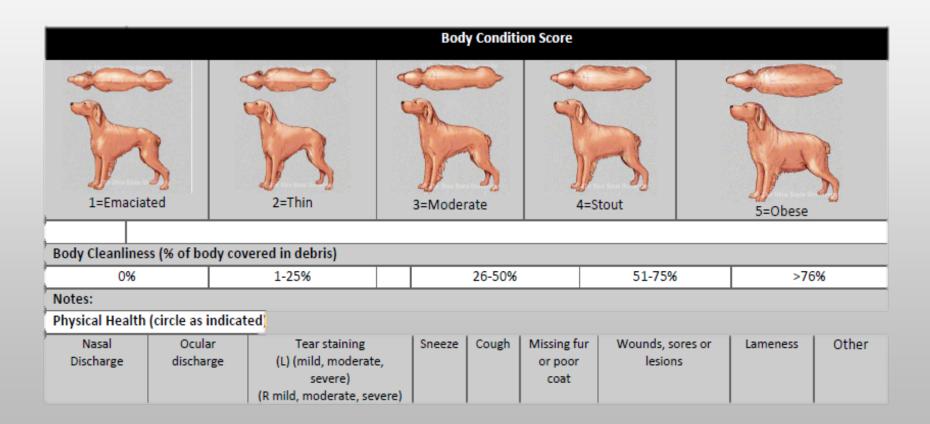
Knowledgeable, prepared rehabilitators and owners







• PHYSICAL METRICS RECORDED (BCS, CLEANLINESS, OTHER HEALTH INDICATORS)



METHODS

Canine welfare assessment tool (WAT) developed

Behavior: dogs' responses to approach categorized

Fight or flight
Frozen
Stereotypic



Ambivalent



Affiliative, Attentionsoliciting, Neutral

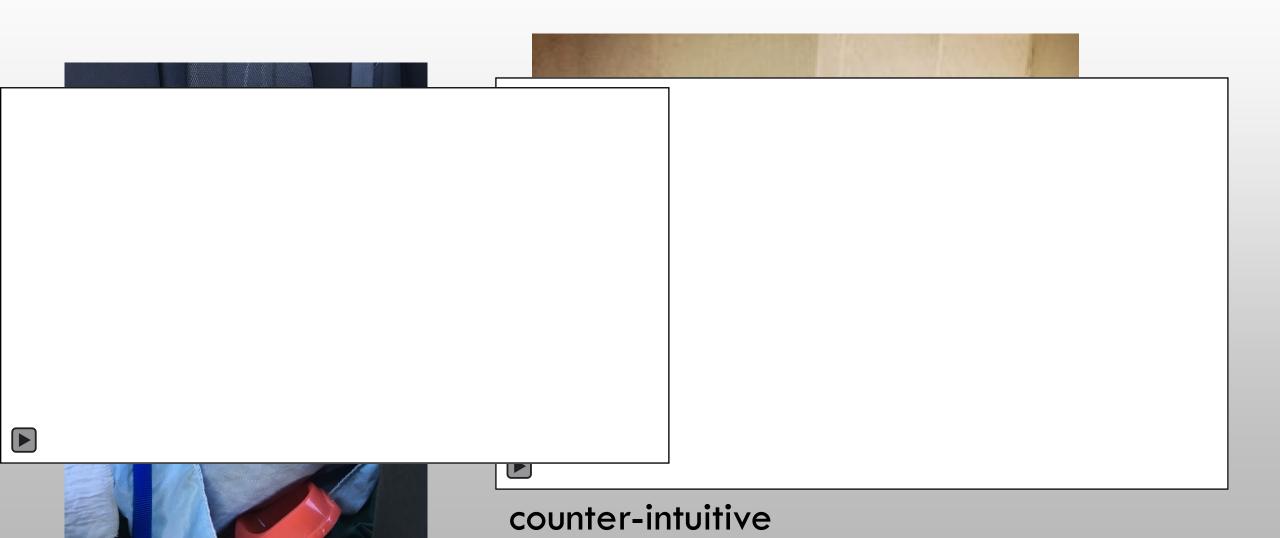


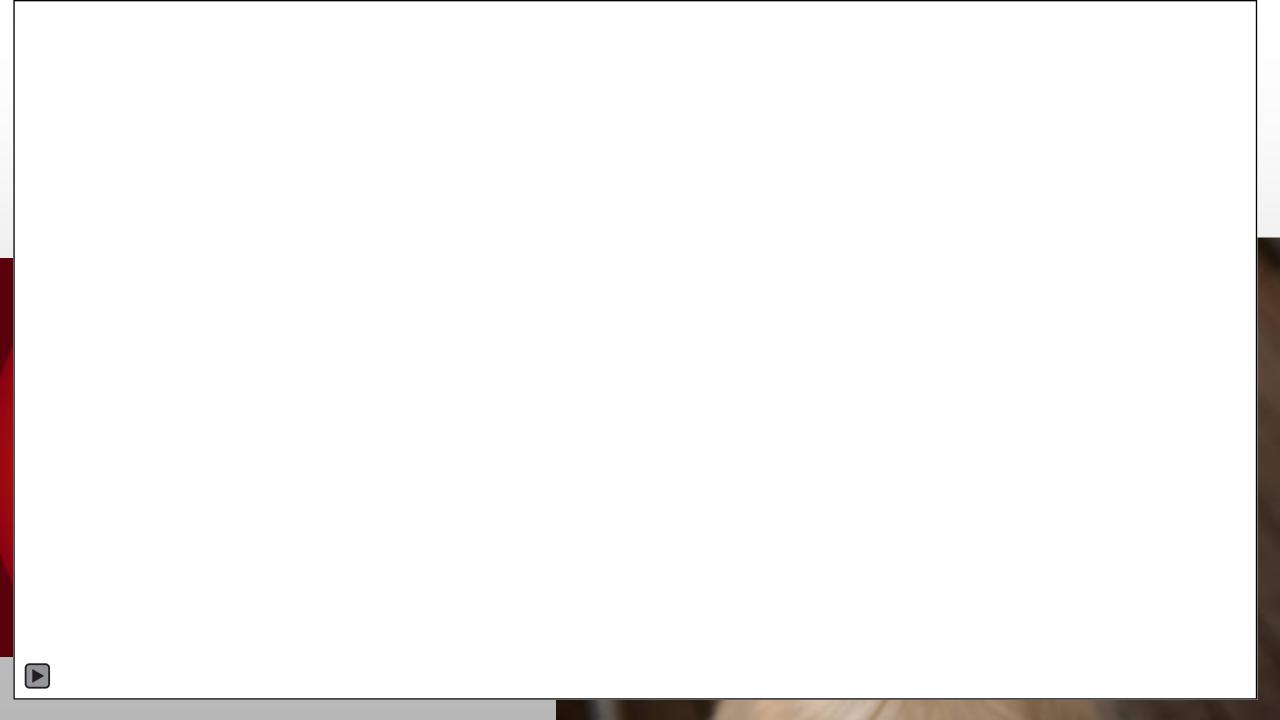
IMPORTANCE OF FEAR ASSESSMENT

- IF FEARFUL IN FAMILIAR ENVIRONMENT, TRANSITION TO REHOMING LIKELY ⇒ DISTRESS
 - MAY BE INTERPRETED AS POOR PRIOR CARE
 - MAY COMPLICATE ADOPTION/RETENTION
 - MAIN REASONS FOR ADOPTION:
 - APPEARANCE, SOCIAL BEHAVIOR WITH ADOPTER,
 PERSONALITY

Weiss et al. 2012. Animals, 2(2), 144-159

RECOGNIZING FEAR AND DISTRESS





WHAT CAN A BREEDER DO?

- EVALUATE EARLY AND OFTEN (FAMILIAR AND UNFAMILIAR PERSON)
- EVALUATE IN DIFFERENT PLACES (NOT JUST HOME PEN)
- EVALUATE GENETIC SELECTION
- REVISIT SOCIALIZATION, ENRICHMENT AND CARETAKER INTERACTIONS; MODIFY AS NEEDED

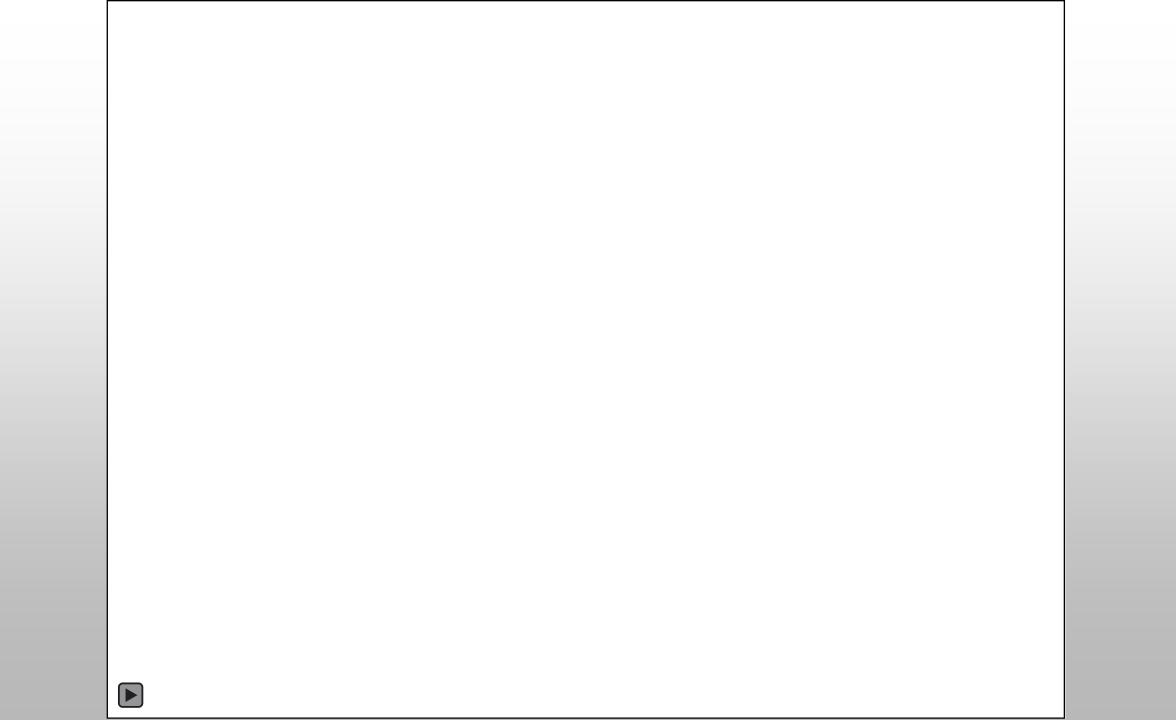


EXAMPLES

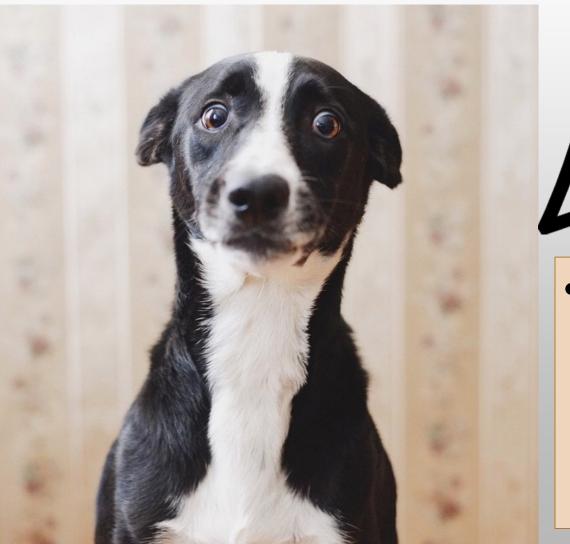








WHAT ABOUT EUTHANASIA?



Euthanasia decisions

Should not be made on basis of convenience

- ESTABLISH CRITERIA
 - SEVERE, POOR PROGNOSIS PHYSICAL OR BEHAVIORAL HEALTH ISSUES THAT RESULT IN ONGOING POOR QUALITY OF LIFE
 - E.G., DANGEROUS BEHAVIOR

TAKE HOME MESSAGES

- SUCCESSFUL RETIREMENT & REHOMING IS DIFFICULT
 - REQUIRES PLANNING AND COLLABORATION
- SET DOGS UP FOR SUCCESS EARLY
- ASSESS DOGS EARLY AND OFTEN USING CRITERIA FOR BOTH RETIREMENT AND REHOMING
- FEAR IS THE ENEMY OF SUCCESSFUL REHOMING
 - ADDRESS IN SELECTION & MANAGEMENT



ACKNOWLEDGEMENTS



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- ANDREW PIETRANIEC
- MIKAYLA SMALL
- JAMES HA

SPONSORS





THE STANTON FOUNDATION





SPECIAL THANKS



QUESTIONS?

CCRONEY@PURDUE.EDU
HTTP://VET.PURDUE.EDU/CAWS/

WHAT DID THE ASSESSMENT TELL US?

- NO MAJOR HEALTH PROBLEMS
- BUT <u>SOME FEAR OF STRANGERS</u> <u>PRESENT</u>



AWS Projects

stablishing science-based standards for the care and welfare of breeding

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PURDUE | LOCAL FACES

EXPERT

Effects of Flooring on Animal Health and Well-Being: Implications for Kenneled Dogs

Introduction

Interest in improving the welfare of dogs maintained in kennel environments has resulted in debate about the scientific basis for current standard for housing dogs in the United States. The commercial dogs breeding industry is widely criticisted relative to dog welfare, and dogs bousing conditions of the standard states. The commercial dogs bousing conditions often are a fixed point. While much americal has focused on the generic, beatth, behavioral, and psychological well-leving of dogs in these operations while the property of the standard property of the standar

Effects of flooring on animal health and welfare

While larke information exists about how kenned forming affects of which see the effects of flooring of force of flooring affects of the origin of the behavior and welfare of farm animals are well documented. Must of what has been learned from those studies can be applied to dogs kept in kennels. Studies have shown that some types of farm floors can cause locomotion problems, lameness, injury, overall foot beath issues, and animal disconfero (Phillips and Morris, 2001; Telerhenko and Bergsen, 2005; Cook and Nordland, 2009). Killerkée et al., 2009. Hotter et and Nordland, 2009. Hotter et al.

chickens choose to lie down while eating instead of standing as their sound counterparts would (Weeks et al., 2000).

Safeguarding good foot health by identifying and using appropriate infloring surface is, therefore, a smart investment (Bostipias et al., 2012) for both animal welfare and economic paperportate floring and economic reasons. Proper foot care and access to appropriate floring for standing, appropriate floring for standing, paramount for good animal welfare as is early identification of potential problems and intervention to prevent long-term foot health issues (Groenevelet et al., 2014).

nabber alan were less likely to suffer from foor disease than were cons-bound on solid nulther flooring (Halegern and Bergsten, 2001) while cons-boused on concrete were more likely than cons-on solid rubber to become laine, develop heel ensolens, and have increase zates of clue growth and wear. Additionally, Asian elphants have been observed engaged in more resting and locomotion behaviors on rubber floors than on concrete floors (Medler et al., 2007).

concrete floors (Meller et al., 2007). Not only do animals show different physiological responses to different flooring types, but when offered a choice, they often prefer one flooring type over another. For instance, sows exposed to three different types of floors (concrete, plastic coased rod, and eal/wainzed

PURDUE LOCAL FACES

Implications of weaning age for dog welfare

Moviah Hurt R.S., Audi Stella Ph.D. and Candace Cooney Ph.D.

Introduction

Weaning is an important stage in dog development, and maximazing the welfare of dams and their offspring can promote adult dog well-being. During the weaning process, puppies begin consuming semi-solid food at around three weeks of age, and they typically are separated from their dams between six and eight weeks of age for re-horning. This coincides with a stage in puppy development that involves critical learning and has long-term implications for behavioral wellness as adults. To optimize the well-being of puppies as well as adult dogs, it is essential to conside

ioral wellness as adults. To optimize the well-being of puppies as well as adult dogs, it is essential to consider the weaning ages and practices used as well as their relationship to developmental processes.

The weaning process

Weaning is the gradual process of young mammals transitioning from a liquid-based milk diet to toild food. For puppies, the weaning process begins at about three weeks of age when they begin to leave the nest hox and eliminare without stimulation from the dam (Lindsay, 2000). Variation in the amount of solid food and milk intake between different litters, and somenimes between puppies of the same litter, is normal (Madm and Jemen, 1996). It is also important to note that some aspects of the weaning process, such as when the dam stops producing milk, may differ by breed or breed type. Dams cease milk production between seven to 10 weeks after giving brith (Soot and Fallet. 1974). Different growth rates, metabolic and nutrient needs between breedfreed types much seven should be considered. To



precas, even after oggit weeks of age, can be susceptible to hypogly cernia. Large-breed puppies under a rapid growth rate and are susceptible to nutrient and calotitinbalances, causing conditions such as developmental orthopedi diseases (see Lauten, 2006 for diseases (see Lauten, 2006 for therefore be done carefully to ensure that all dogs receive the proper care.

During weaning, the dam may begin regargitating food for her puppies and will make nursing more difficult by not lying on her side, moving away or pushing

puppies away when ther try to naure. Other factors affecting when and how wearing occur include whether the dam has access to an area away from ther pups, how much time she spends away from them, if she regurgitates food for them, and if there is communal rearing (Malm and Jensen, 1996), which can occur when dops are housed in compatible groups. In general, puppies are fully weaned to solid food between seven and 1994 to work of the solid food between seven and the solid food th

Weaning does not consist merely of transitioning pappies to solid flood, however. An important component of the process involves the development of puppies' indiapendence from their dams. It slepins with brief, gardually increasing periods of separation initiated by the dans leaving their nests or whelping areas for repite from their puppies. Because weaning and separation from the mother is a complex process that can have liftleng effects, abrupt weaning or interruptions in gradual weaning on the detrimental. For example, abrupt

PURDUE LOCAL FACES

Assessing Kennel Dog Welfare

APPLY NEWS PRESIDENT SHOP VISIT GIVE EMERGENCY Q

Introduction For many does, time



dogs may be confronted, which as new environmental creats, sounds, or smells, separation from familiar creats, sounds, or smells, separation from familiar learned matter or carristors, as well as confirmment in rain or cage. As a result, some dogs may experience for borrelous, frautration or social isolation, which may result in poor welfare.

On the other hand, it is important to know when dogs are doing well as that positive tates can be maintained and preserved. Knowledgehle caretakers can impact the health and well-being if edge by identifying and attending to signs of poor as well as positive selfater state. Regardless of the causes of a deg's state of being, it is upportant for those who work with dogs to be resure of the signs of the causes of the degree well-being. Behavioral inflicitators of frear flow of the signs of the si

and anxiety
Dop cardiplay a variety of behaviors to indicar

of 6
vices to indicate a face

Reganition as to why dogs may show fare when kape in kenneds, recognizing when they are fearful, and then kenneds, recognizing when they are fearful, and then kennessening appropriated; can help no proceed them and their carealism. Fearful dogs may respond with an interact its aggression, proventing and from properly caring for them (Vin., 2009). Thus, careaker who are able to klently three behavior, or "real dogs both language," are better able to predict a dog's behavior, make adjustments in other own behavior for safer

andling, or modify the environment to that the dog

handling or maining

Recogning for a dae important because wound funding in fearful deep may be slower, degs could also have repredactive difficulties (McGrady, 1994) von Bootl, 1999) and be viewed as loss desirable by potentia despress (Weiss et al., 2012; Key behavioral indicator of fear or attricty in degs include law body posture (recysing, low to the ground), tall metaled between legs, shaking or trembling, pareing, paw lifting, lip licking



mmercial breeding of dogs faces significant scrutiny and criticism despite consistent public demand for purebred gs. Concerns include the extent to which the physical, behavioral and psychological needs of the animals can be met the conditions in which they are raised, and the specific effects of genetics, housing, health, handling, behavioral anagement and general husbandry practices on dog quality of life. This project aims to help the US pet industries dress the socio-ethical and scientific (well-being) concerns embedded in commercial dog breeding. With the support dog breeders, pet industry representatives, animal health and welfare experts, and other key stakeholders, the searchers are developing and testing voluntary standards for the care and well-being of dogs in commercial breeding silities. The research team is also investigating the following areas:

- Effects of flooring surface on overall health of dog feet, cleanliness of the enclosure, and ability to sanitize the dog's environment"
- Effects of caretaker interactions on dog behavior and welfare when housed in a breeding facility and their
 implications for management, socialization and adoptability
- Public perceptions of dog breeding, procurement and welfare
- . Development and refinement of metrics of kenneled dog well-being

Funded by: The Pet Food Institute, World Pet Association and Pet Industry Joint Advisory Council

Faculty lead: Candace Croney

Products

 Standards draft. To avoid premature use and dissemination of the standards, their contents are confidential until pilot testing is completed. However, the Table of Contents is available for review

here (PDF)

- Extension papers on dog welfare. Free downloads available.
 - Effects of Flooring on Animal Health and Well-Being: Implications for Kenneled Dogs
 - Promoting the Welfare of Kenneled Dogs: Environmental Considerations
 - · Promoting the Welfare of Kenneled Dogs: Space Allocations and Exercise
 - · Assessing Kennel Dog Welfare
 - Brucella Canis: Emerging zoonotic disease?
 - Implications of Weaning Age for Dog Welfare

Other Extension Publications

- Views on Animal Agriculture in Rural Versus Urban Indiana Counties
- Perception is Reality
- <u>Caged cats Importance of routine and cage</u> environment
- Enhancing the welfare of caged cats through environmental management — the housing room

Additional Sites of Interest

Purdue Extension

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REHOMING CONSIDERATIONS

OWNER SATISFACTION

- BEHAVIORAL PROBLEMS ARE POORLY TOLERATED
- IMPACTS ON ADOPTION, RETENTION, EUTHANASIA
- LEADING CAUSE OF RELINQUISHMENT TO SHELTEI ET Al., 2002)
- RISK TO BREEDER REPUTATION

WELFARE OF DOGS AT ALL STAGES OF TRAN















CANINE WELFARE ASSESSMENT TOOL APPLICATIONS

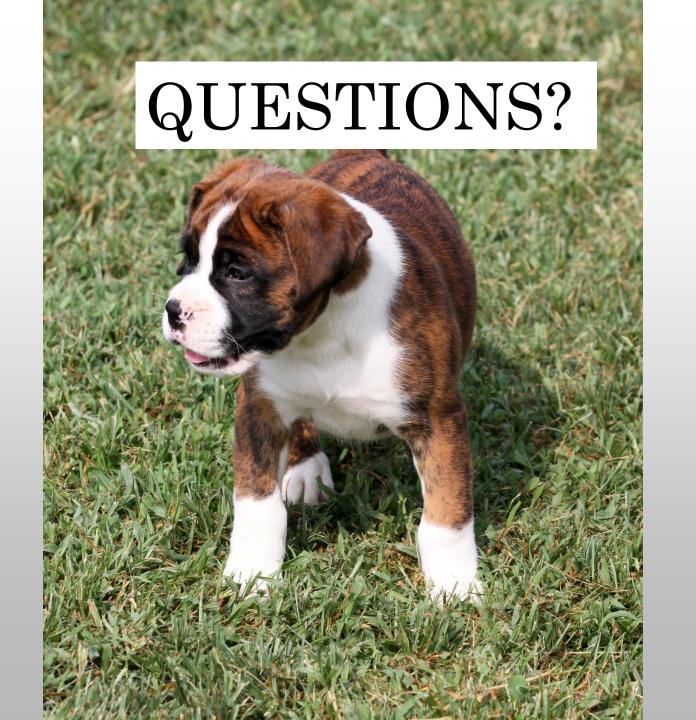
Identify fearfulness upon approach

Facilitate interventions

Improve adoptability and retention

Applicable to multiple "field" settings





MEASURES OF FUNCTIONING WELL: APPLICATIONS TO DOGS

- STRESS HORMONE LEVELS
- INDICATORS OF IMMUNE FUNCTION (WBC/RBC)
- OTHER INDICATORS
 - RESPIRATION RATE
 - HEART RATE
 - BODY TEMPERATURE



- HEALTH
 - DISEASE, INJURY, MORTALITY
 RATES
- GENERAL APPEARANCE
- BODY CONDITION
- REPRODUCTIVE SUCCESS
 - LITTER SIZE AND QUALITY
- PERFORMANCE/PRODUCTION

MEASURES OF FEELING WELL: BEHAVIORAL METRICS

Normal behaviors

• Maintenance (e.g., grooming, conflict, social

Abnormal behaviors

- Excessive/unpredictable aggression
- Apathy/unresponsiveness; hyperresponsiveness
- Excessive grooming/lack of grooming
- Behavioral vices/stereotypies



MEASURES OF NATURAL LIVING

What elements of the dog's living conditions are both natural (species-specific) and preferred?

What can reasonably be accommodated?

- Group living
- Access to outdoors/natural surfaces
- Exercise
- Clean, dry, comfortable resting areas
- Quiet, separate whelping/nursing quarters



INDICATORS OF BEHAVIORAL STATE





INDICATORS OF BEHAVIORAL STATE



IMPLEMENTING A RETIREMENT PLAN

Assess dog in different areas of facility

Identify retirement location

Determine if candidate for rehoming

Assume dogs will need social support

Pair-adoptions where feasible

 Dogs should be stable, familiar and compatible

THREE CONCEPTIONS OF ANIMAL WELFARE

(FRASER ET AL., 1997)

ANIMALS SHOULD:

Function well

Good health
Normal growth, reproduction



Feel well

Minimize negative feelings (pain, fear)

Experience positive feelings (contentment)





Be able to lead reasonably natural lives

Perform behaviors that are important to them Have natural elements in their living spaces

ASSESSING BEHAVIORAL RISKS IN REHOMING CANDIDATES

- WHAT % OF DOGS IN BREEDING KENNELS ARE LOW RISK FOR TRANSITION PROBLEMS DURING REHOMING?
 - FEAR ASSESSMENT
- WHAT MANAGEMENT PRACTICES MAY BE ASSOCIATED WITH LOW RISK IN COMMERCIAL BREEDING KENNELS?
- WHAT INTERVENTIONS ARE BEST?

Breeding Dog Welfare Research Program Sponsors & Facilitators

