



University of Tennessee, Knoxville  
**Trace: Tennessee Research and Creative  
Exchange**

---

Veterinary Partners Appreciation Conference (V-  
PAC)

2nd Annual Veterinary Partners Appreciation  
Conference (V-PAC), 2014

---

Jul 12th, 11:25 AM - 11:45 AM

## Alternative Diet Trends: Grain-free, Raw, and Homemade Diets

Angela Witzel  
[awitzel@utk.edu](mailto:awitzel@utk.edu)

Follow this and additional works at: <http://trace.tennessee.edu/v-pac>

 Part of the [Veterinary Medicine Commons](#)

---

Angela Witzel, "Alternative Diet Trends: Grain-free, Raw, and Homemade Diets" (July 12, 2014). *Veterinary Partners Appreciation Conference (V-PAC)*.

<http://trace.tennessee.edu/v-pac/proceedings2014/smallanimal/4>

This Event is brought to you for free and open access by Trace: Tennessee Research and Creative Exchange. It has been accepted for inclusion in Veterinary Partners Appreciation Conference (V-PAC) by an authorized administrator of Trace: Tennessee Research and Creative Exchange. For more information, please contact [trace@utk.edu](mailto:trace@utk.edu).

# Alternative Diet Trends

Angela Witzel, DVM, PhD, DACVN

## Grain free diets

- 1) No AAFCO definition for “grain-free”
  - a. Grain free is not synonymous with carbohydrate free
  - b. Most grain free diets use potatoes, peas, or tapioca as carbohydrate sources
- 2) Vary greatly in their protein, fat, and carbohydrate contents
  - a. Those that are low in carbohydrates tend to be high in fat and calories
- 3) Difficult to assess the impact of grain free on food allergies. Wheat, but not corn, is reported in dogs to be a common allergen. However, the alternative carbohydrate sources used in grain free diets also have allergenic potential and increased feeding of these foods may cause more dogs and cats to develop allergies to these sources.

## Raw diets

- 1) Bone and Raw Food Diets (BARF)/Biologically Appropriate Raw Food (BARF)
  - a. It is a nutritional philosophy of:
    - i. Feeding domesticated dogs and cats as if they were still in the wild
    - ii. Processing food and ingredients degrades them and decreases their nutritional value
  - b. In purest sense, BARF diets do not include grains, but do include raw meat and bones
    - i. However, some raw food proponents do include unprocessed grains, vegetables, etc.
  - c. Advantages
    - i. Testimonials
    - ii. Processing MIGHT decrease nutritional value
      1. Some human diseases are epidemiologically linked to refined foods (e.g. obesity, cancer)
    - iii. None have been proven in controlled studies
      1. Only testimonials
      2. Commercial foods must meet AAFCO requirements
      3. BUT
        - a. Many therapeutic diets have not been evaluated in a controlled study
        - b. Many OTC pet foods have not been through feeding trials
  - d. Disadvantages
    - i. Formulation
      1. Ca:P ratios
    - ii. Mechanical problems
      1. Bones in throat
    - iii. Infectious agents
      1. Salmonella
      2. E. Coli
      3. Freezing and vinegar do not necessarily kill organisms
        - a. Diluted vinegar does not kill most bacteria
        - b. Freezing to -70C does not kill E coli
      4. Although animals may not become ill, they may be carriers

- iv. FDA does not believe raw meat foods for animals are consistent with the goal of protecting the public from significant health risks, particularly when such products are brought into the home and/or used to feed domestic pets
- e. Commercial raw foods available – more likely to be balanced

## Homemade diets

- 1) Homemade diets
  - a. Clinically important for
    - i. Elimination diets for food allergies
    - ii. Increasing palatability for sick patients
    - iii. Managing disease combinations that do not have a commercially available option
      1. Renal disease and pancreatitis
      2. Food allergy and renal disease
  - b. Drawbacks to homecooking
    - i. Cost
      1. 60 pound Labrador needs about 1200 kcal per day.
      2. Vitamin and mineral supplements can add up
    - ii. Time
    - iii. Even balanced recipes have not undergone nutrient analysis or food trials
  - c. How do you develop a balanced recipe?
    - i. Using USDA publications for food nutrients
    - ii. Software programs
      1. Balance-IT®
      2. ESHA – human-based nutritional software
      3. Add in AAFCO requirements and National Research Council (NRC) recommendations
        - a. Develop recipes and compare them to AAFCO and NRC
        - b. Many NRC recommendations based on scientific research using purified diets and nutrients
        - c. For most nutrients, AAFCO requirements higher than NRC
          - i. Compensates for decreased digestibility of some dog and cat foods
        - d. Home-made diets more digestible and can meet NRC without meeting AAFCO
    - iii. Sources for homemade diets
      1. Internet
        - a. Lots of misinformation
      2. Books
        - a. Often still unbalanced
      3. Healthy dogs and cats - Balance IT.com
        - a. Designed by board-certified veterinary nutritionist
      4. Sick dogs and cats - University of Tennessee: [utvns@utk.edu](mailto:utvns@utk.edu)
  - d. Evaluating Homemade diets
    - i. **Do the main food groups appear in the recipe?**

If following components are present, then the diet MIGHT be balanced. If one these are missing, then the diet is probably NOT balanced.

- ii. Carbohydrates – dogs only truly require carbohydrates during pregnancy and lactation, but function optimally with some carbohydrates. Cats do not have a requirement. Typical ratios of carbohydrates to protein are:
  - 1. Dogs – 2:1 to 3:1
  - 2. Cats – 1:1 to 2:1
  - 3. Common sources include rice, pasta, corn, potatoes, barley
- iii. Protein
  - 1. Recipe must be SPECIFIC in its protein source. If you are unable to determine amount of fat in the protein source by the description, then the diet was not balanced.
    - a. For example, a recipe with 4 pounds of chicken listed
      - i. Is it chicken breast or dark meat?
      - ii. Is the skin on or off?
      - iii. Is it cooked or raw weight?
      - iv. Boneless or bone-in?
  - 2. Animal source protein is preferred
    - a. Skeletal muscle of various species have similar nutrient profiles
  - 3. Eggs are good protein source for vegetarian diets
  - 4. Soy and vegetable protein sources may need amino acid supplementation
- iv. Fat
  - 1. Essential fatty acids are needed for all diets
  - 2. Evaluate protein source for fat
    - a. 20% fat ground beef versus skinless chicken breasts
  - 3. Vegetable based fats may need to be added to meet essential fatty acids
- v. Calcium Source
  - 1. Calcium carbonate/TUMS
  - 2. Bone meal – provides calcium and phosphorous
  - 3. Steamed preparations
    - a. Don't use bone meal from gardening centers
  - 4. All-in-one homemade diet vitamin and mineral mixes (BalanceIT and MyPet Grocer)
- vi. Additional vitamins
  - 1. Usually need human strength multivitamin
    - a. Ex. Centrum
  - 2. Pet vitamins are designed to be used in addition to an already balanced diet
  - 3. There are a couple of multivitamins for pet designed specifically for homemade diets – BalanceIT and MyPet Grocer