

CANINE MINIMUM NUTRIENT REQUIREMENT RECOMMENDATIONS (AAFCO, NRC, FEDIAF)

| Canine | | | | | | | | | | | |
|---|-------|-------|-----|-----|---------------------------------------|-----|-----|------------------|-----|-----|---|
| Normal Requirements based on FEDIAF guidelines 2011 | | Adult | | | Early Growth (<14 weeks) Reproduction | | | Growth >14 weeks | | | |
| Nutrient | Units | DM | 10% | 78% | DM | 10% | 78% | DM | 10% | 78% | |
| Protein | g | 18 | 20 | 4 | 25 | 23 | 5.5 | 20 | 18 | 4.4 | Can increase fat in diet so long as Protein requirements are met |
| Arginine | | .52 | | | .82 | | | .69 | | | % protein dependent on digestibility, and amino acid balance |
| Histidine | | .23 | | | .39 | | | .25 | | | If protein in diet is <18% must be of excellent quality and meets amino acid profile |
| Isoleucine | | .46 | | | .65 | | | .50 | | | Assumes some carbohydrates in diet if none protein must be much higher to provide glucose |
| Leucine | | .82 | | | 1.29 | | | .6 | | | |
| Lysine | | .42 | | | .88 | | | .7 | | | Growth Max 2.8 |
| Methionine | | .31 | | | .35 | | | .26 | | | |
| Methionine/cystine | | .62 | | | .70 | | | .53 | | | Assume no taurine in diet |
| Phenylalanine | | .54 | | | .65 | | | .5 | | | |
| Phenyl/tyrosine | | .89 | | | 1.3 | | | 1.0 | | | To max black hair colour must increase 1.5 to 2 times |
| Threonine | | .52 | | | .81 | | | .64 | | | |
| Tryptophan | | .17 | | | .23 | | | .21 | | | |
| Valine | | .59 | | | .68 | | | .56 | | | |
| Fibre | | 1.5 | | | | | | | | | |
| Ash | | 4.0 | | | | | | | | | |
| Carbohydrates | | 71 | | | | | | | | | |
| Fat | g | 5.5 | 5 | 1.2 | 8.5 | 7.7 | 1.9 | 8.5 | 7.7 | 1.9 | |
| Linoleic | g | 1.32 | | | 1.3 | | | 1.3 | | | Omega 6:3 ratio important |
| Arachadonic | | | | | 30 | | | 30 | | | Early growth and reproduction |
| Alpha Linolenic acid | | | | | .08 | | | .08 | | | |
| EPA+DHA | | | | | .05 | | | .05 | | | |

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|---|-------|------------|-----|------|---------------------------------------|------|---------------------------------------|-----------------------|-----|--|---|
| Normal Requirements based on FEDIAF guidelines 2011 | | Adult | | | Early Growth (<14 weeks) Reproduction | | | Growth >14 weeks | | | |
| Nutrient | Units | DM | 10% | 78% | DM | 10% | 78% | DM | 10% | 78% | |
| Ca | g | .50 | .45 | .11 | 1.0 | .9 | .22 | .80 to 1.0 | | | Adult Max.2.5., May need to increase trace minerals <14 wk Max1.6 >14 wks Max 1.8 |
| P | | .40 | .36 | .08 | .9 | .8 | .20 | .7 | | | Adult Max 1.6 |
| Ca:P | | 1:1 to 2:1 | | | 1:1 to 1.6-1 | | | 1:1 to 1.6:1 or 1.8:1 | | | |
| K | | .5 | .45 | .11 | .44 | .4 | Same as the <14 wks | | | | |
| Na | | .10 | .09 | .022 | .22 | .2 | | | | Adult Max 1.6,>2% -ve K balance | |
| Cl | | .15 | .14 | .033 | .33 | .13 | | | | Adult Max 2.25 | |
| Mg | | .07 | .06 | .02 | .04 | .036 | | | | | |
| Copper | mg | .72 | | | 1.1 | | | | | Oxide poorly available | |
| Iodine | | .11 | | | .15 | | | | | | |
| Fe | | 3.6 | | | 8.8 | | | | | Oxide and carbonate salt not available | |
| Mn | | .58 | | | .56 | | | | | | |
| Se | ug | 30 | | | .35 | | | | | Availability in pet foods may be low | |
| Zn | | 7.2 | | | 10 | | | | | | |
| Vit A | IU | 500 | | | 500 | | Same as the <14 weeks except Vit D=50 | | | Max.40,000IU | |
| Vit D | IU | 50 | | | 55.2 | | | | | Max 320 IU for large breed puppies | |
| Vit E | IU | 3.6 | | | 5 | | | | | Must increase if PUFA high | |
| Thiamine (B1) | mg | .23 | | | .14 | | | | | | |
| Riboflavin | | .6 | | | .53 | | | | | | |
| Pantothenic acid | | 1.00 | | | 1.5 | | | | | | |
| B6 (Pyridoxine) | | .15 | | | .15 | | | | | | |
| B12 | ug | 2.2 | | | 3.5 | | | | | | |

NUTRIENT ANALYSIS OF THE CANINE ANCESTRAL DIET

| | % of calories | g/1000 Kcal | | g/1000Kcal |
|---------------|---------------|-------------|-----------------|------------|
| Protein | 49 | 123 | | |
| Fat | 44 | 49 | Saturated | 15 to 20 |
| | | | Monosaturated | 15 to 25 |
| | | | Polyunsaturated | 5 to 15 |
| | | | LA | 3.5 to 12 |
| | | | ALA | 1 to 4 |
| | | | EPA+DHA | .2 to 1 |
| | | | Omega6:omega3 | 2:1 To 6:1 |
| | | | | |
| Carbohydrates | 6 | 16 | | |
| Ca | | 5.7 | | |
| P | | 3.3 | | |
| K | | 2.0 | | |
| Na | | 1.0 | | |
| Mg | | .4 | | |
| Iron | | 43 | | |
| Copper | | 6 | | |
| MN | | 3.1 | | |
| Zn | | 24 | | |
| Ca:P | | 1.7:1 | | |

FELINE MINIMUM NUTRIENT REQUIREMENT RECOMMENDATIONS (AAFCO, NRC, FEDIAF)

| Cats | | | | | | | | |
|---|-------|------------|-----|--------|-----------------------|----------|------------|--|
| Normal Requirements based on FEDIAF guidelines 2011 | | Adult | | | Growth / Reproduction | | | |
| | | | Dry | Canned | | Dry | Canned | |
| Nutrition | Units | DM | 10% | 78% | DM | 10% | 78% | |
| Protein | g | 25 | 23 | 5.5 | 28 to 30 | 25 to 27 | 6.2 to 6.6 | Increases NRC by 15% as domestic cats have a lower energy requirements |
| Arginine | | 1.0 | | | 1.07 to 1.11 | | | Max growth 3.5 Increases as protein levels increase |
| Histidine | | .3 | | | .33 | | | |
| Isoleucine | | .49 | | | .54 | | | |
| Leucine | | 1.17 | | | 1.28 | | | |
| Lysine | | .34 | | | .85 | | | |
| Methionine | | .17 | | | .44 | | | Max Growth 1.3 |
| Methionine/cystine | | .34 | | | .88 | | | |
| Phenylalanine | | .45 | | | .5 | | | |
| Phenyl/tyrosine | | 1.75 | | | 1.91 | | | |
| Threonine | | .6 | | | .65 | | | |
| Tryptophan | | .15 | | | .16 | | | Max growth 1.7 |
| Valine | | .59 | | | .64 | | | |
| Taurine (Canned) | | .2 | | | .25 | | | |
| Taurine (Dry) | | .1 | | | .1 | | | |
| | | | | | | | | |
| Fat | g | 9.0 | 8.1 | 1.98 | 9 | | | |
| Linoleic | | .5 | | | .555 | | | |
| Arachadonic | mg | 6.0 | | | 20 | | | |
| Alpha Linolenic acid | | | | | .02 | | | |
| EPA+DHA | | | | | .01 | | | |
| | | | | | | | | |
| Ca | g | .5 | | | 1.00 | | | |
| P | | .5 | | | .84 | | | |
| Ca:P | | 1:1 to 2:1 | | | 1:1 to 1.5:1 | | | |

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| Cats | | | | | | | | |
|---|-------|-------|-----|--------|-----------------------|-----|--------|---|
| Normal Requirements based on FEDIAF guidelines 2011 | | Adult | | | Growth / Reproduction | | | |
| | | | Dry | Canned | | Dry | Canned | |
| Nutrition | Units | DM | 10% | 78% | DM | 10% | 78% | |
| K | | .6 | | | .6 | | | |
| Na | | .08 | | | .16 | | | |
| Cl | | .11 | | | .24 | | | |
| Mg | | .04 | | | .05 | | | |
| Copper | mg | .5 | | | 1 | | | |
| Iodine | | .06 | | | .18 | | | |
| Fe | | 8.0 | | | 8 | | | |
| Mn | | .5 | | | 1 | | | |
| Se | ug | 30 | | | 30 | | | |
| Zn | | 7.5 | | | 7.5 | | | |
| Vit A | IU | 333 | | | 900 | | | Do not exceed 33,330 IU/kg |
| Vit D | IU | 25 | | | 25 | | | Max 3000IU/kg |
| Vit E | IU | 3.8 | | | 3.8 | | | 5 to 10 IU added per g of fish oil added/kg of diet |
| Thiamine (B1) | mg | .56 | | | .55 | | | |
| Riboflavin | | .4 | | | .40 | | | |
| Pantothenic acid | | .56 | | | .57 | | | |
| B6 (Pyridoxine) | | .29 | | | .4 | | | |
| B12 | ug | 2.25 | | | 2.0 | | | |
| Niacin | Mg | 4 | | | 4.0 | | | |
| Folic Acid | ug | 80 | | | 80 | | | |
| Biotin | ug | 7.5 | | | 7.0 | | | |
| Choline | mg | 240 | | | 240 | | | |
| Vitamin K | ug | 10 | | | 10 | | | |

THE FELINE ANCESTRAL DIET

(BASED ON THE AVERAGE NUTRIENT ANALYSIS OF FERAL CATS' NATURAL PREY)

| | | Label Minimums | | Kcal/d | 6 kg cat |
|----------------------|----------------|----------------|--------|------------|----------|
| | | Dry | Canned | | |
| | % DM | 90% DM | 225 DM | g/100Kcal | g/d |
| Kcal/100gm | 416 | 374 | 91 | | |
| %DM | 25.7 | | | | |
| Protein | 62.8 | 56.5 | 13.8 | 15.1 | 48.2 |
| Fat | 23.1 | 20.8 | 5.1 | 5.5 | 17.7 |
| Ash | 10.4 | 9.6 | 2.3 | 2.5 | 8.0 |
| Fiber+ carbohydrates | 3.7 | 3.3 | .8 | 0.9 | 2.9 |
| Ca | 2.7 | 2.4 | .6 | 0.7 | 2.1 |
| P | 1.9 | 1.7 | .42 | 0.5 | 1.441 |
| Mg | 0.1 | | | 0.0 | 0.084 |
| Na | 0.4 | | | 0.1 | 0.315 |
| K | 0.7 | | | 0.2 | 0.509 |
| | mg/100g | | | mg/100Kcal | mg/d |
| Cu | .7 | | | .17 | .51 |
| Fe | 14.5 | | | 3.4 | 10.2 |
| Zn | 9.74 | | | 2.3 | 6.9 |
| Mn | .61 | | | .15 | .45 |
| Vitamin A IU/kg | 2,000 to10,000 | | | | |
| Vit E IU/100g | 10 | | | | |
| Vitamin D IU /100g | 25 | | | | |

FEEDING TO MANAGE CANCER

| | Special Considerations | Guaranteed Analysis | | | Comments |
|---------------------------|------------------------------|---------------------|--------|--------|---|
| | | % DM | 90% DM | 22% DM | |
| With Metabolic changes | Protein (Min) | 40 | 36 | 20 | All other nutrients can meet requirements. Can supplement with Glutamine. Fruits and vegetables added that have high antioxidants |
| | Fat (Min) | 26 | 23.4 | 5.7 | |
| | Carbohydrates + Fibre(Max) + | 15 | 14 | 3.3 | |
| | Arginine (Min) | 2 | 1.8 | .44 | |
| | Omega6:Omega3 | 3:1 | | | |
| With no metabolic changes | Protein (Min) | 32 | 29 | 7 | All other nutrients can meet requirements |
| | Fat (Min) | 25 | 23 | 5.5 | |
| | Carbohydrates + Fibre(Max) + | 20 | 18 | 4.4 | |
| | Arginine (Min) | 2 | 1.8 | .44 | |
| | Omega6:Omega3 | 4:1 | | | |

FEEDING TO MANAGE RENAL DISEASE

| | Special Considerations | Guaranteed Analysis | | | Comments |
|-------------------|------------------------|---------------------|----------|------------|---|
| | | % DM | 90% DM | 22% DM | |
| Early to Moderate | Protein (Min) | 24 to 28 | 22 to 25 | 5.3 to 5.5 | Protein sources should be highly digestible and from animal sources |
| | Fat (Min) | 11 to 17 | 10 to 15 | 2.2 to 3.3 | |
| | Ca (Min) | .44 to.89 | .4 to.8 | .10 to.18 | |
| | P (Max) | .17 to .22 | .15 to.2 | .04 | |
| | Na (max) | .09 | .08 | .02 | |
| | K (Min) | .44 | .4 | .1 | |
| | Omega3 :omega3 (Max) | 4:1 | | | |
| Severe | Protein Max | 22 | 20 | 5 | |
| | Fat (Min) | 11 to 17 | 10 to 15 | 2.2 to 3.3 | |
| | Ca (Min) | .44 to.89 | .4 to.8 | .10 to.18 | |
| | P (Max) | .17 | .15 | .04 | |
| | Na (max) | .09 | .08 | .02 | |
| | K (Min) | .44 | .4 | .1 | |
| | Omega3 :omega3 (Max) | 4:1 | | | |