

Multimodal Approach to Reproductive Health in Dogs and Cats

Developed and reviewed by the members of the Standard Process Veterinary team

Nutritional Status and Reproductive Health

Vitamins and minerals are essential for various biological processes that impact fertility and pregnancy outcomes. During these stages, the body's demand for specific nutrients increases to support the health of reproductive tissues, the development of the embryo, and overall maternal well-being. Deficiencies in key vitamins and minerals can lead to complications such as infertility, poor fetal development, and even pregnancy loss.

Vitamins and minerals essential for reproductive health in dogs and cats include vitamin E: a powerful antioxidant that plays a crucial role in protecting reproductive tissues from oxidative damage. A study in 2019 demonstrated that vitamin E supplementation can improve sperm quality and fertility in male dogs.¹ Similarly, minerals such as zinc and selenium are important for reproductive function in both male and female animals. Studies have shown that zinc deficiency can impair sperm production and fertility in male dogs.²

Omega-3 fatty acids are another important nutrient for reproductive health in dogs and cats. These essential fatty acids support inflammatory pathways and can help modulate hormone production and improve fertility. It has been shown that balanced omega-3:6 ratios in the diet can support healthy pregnancy in female cats.³ Therefore, including sources of the omega-3 fatty acids EPA and DHA from marine sources in the diet can benefit reproductive health.

Another system that relies on nutrition for optimal function is the immune system. A strong immune system is vital for reproductive health. The immune system acts as the body's defense mechanism, protecting against harmful pathogens and other invaders. Passive immunity plays a vital role in immune health, offering immediate protection by transferring ready-made antibodies from an external source to the baby. Newborns acquire maternal antibodies through the placenta and breast milk, giving them essential protection against infections during the first few months of life. By improving resilience through species-appropriate nutrition, a healthy immune system benefits a healthy reproductive system by improving resilience through species-appropriate nutrition. By prioritizing nutrition, exercise, and preventative veterinary care, you can ensure both systems function optimally.

Key Micronutrients⁴

Nutrient	Role in Fertility & Pregnancy	Some Whole-Food Sources
Folate (Vitamin B9)	Crucial for DNA synthesis, cell division, and the neural tube during early pregnancy	Leafy greens such as spinach, kale, Brussels sprouts
Vitamin D	Supports immune function and hormone regulation, which are vital for conception and maintaining pregnancy	Fish and seafood, egg yolks, mushrooms, beef liver
Iron	Necessary for the production of hemoglobin, supports oxygen transport to the fetus, and prevents anemia in mothers	Meats and organ meats: liver, beef, pork, lamb, chicken, and turkey
Calcium	Essential for fetal bone development and the maintenance of the mother's bone density	Milk and cheese, spinach, kale, broccoli, sardines, salmon
Iodine	Critical for thyroid function and fetal brain development	Seafood, seaweed (kelp), milk, cheese, eggs
Zinc	Supports cell division, sperm production, and fetal growth	Oysters, beef liver, lamb, crab, lobster, pork, eggs
Vitamin C	Enhances iron absorption, supports immune function, and aids in collagen production for tissue repair	Fruits, kale, peppers, Brussels sprouts, broccoli
Vitamin A	Vital for cell growth differentiation, and the development of the fetal heart, eyes, and lungs	Liver, eggs, dairy, carrots, spinach, kale, red peppers
Magnesium	Regulates blood pressure, muscle function, and helps with tissue growth and repair during pregnancy	Nuts and seeds, spinach, kale, Swiss chard
Omega-3 Fatty Acids	Supports fetal brain and eye development, and modulates inflammation and maternal mental health	Cod, tuna, calamari, sardines, anchovies, salmon
Vitamin B12	Works with folate in DNA synthesis and red blood cell formation, crucial for neural development	Organ meats such as liver and kidney, beef, salmon, trout, tuna

Adjunctive Supplement Support



Feline Whole Body Support[†]

Suggested Use: **See product label for dosing by weight**

Feline Whole Body Support provides general multisystem support for the daily maintenance of all body systems with an emphasis on a healthy endocrine system.

- An excellent nutritional foundation for use with all other system-support formulas



Canine Whole Body Support[†]

Suggested Use: **See product label for dosing by weight**

Canine Whole Body Support provides general multisystem support for the daily maintenance of all dogs' body systems.



Feline Immune System Support[†]

Suggested Use: **See product label for dosing by weight**

Feline Immune System Support is a supplement that provides nutritional and biochemical support for healthy immune cells and tissues in cats.



Canine Immune System Support[†]

Suggested Use: **See product label for dosing by weight**

Canine Immune System Support is a supplement that supports dogs' immune system function, and endocrine health, and provides nutritional and biochemical support.

- Supports immune cell health
- Supports endocrine health
- Supports healthy inflammatory processes
- Provides antioxidant support
- Beneficial for dogs responding to common environmental challenges



VF Omega-3

Suggested Use: **See product label for dosing by weight**

VF Omega-3 is a fish oil supplement for dogs and cats formulated to provide omega-3 fatty acids that support pets' critical body systems. It delivers concentrated fish oil in softgel form to bridge cats' and dogs' nutritional gap and help support:

- The pathways that regulate joint health
- Heart health
- Canine healthy skin and coat
- The central nervous system
- Brain development of puppies and kittens

Multimodal Approach to Supporting Reproductive Health | In Office/Physical Exam

• Dietary modifications

- Switch to a high-quality, species-appropriate diet
- Include some fresh food (up to 20% of calories)

• Supplementation

- Whole food-based supplements that provide support for organ systems, omega-3 fatty acids

• Veterinary appointments

- Regular veterinary visits are important to gauge the growth of pups and kittens and monitor the mother's health
- Chiropractic care can help the female body adapt to the growth, organ movement, and shift in the center of gravity

REFERENCES

1. Alonge, S., Melandri, M., Leoci, R., Lacalandra, G. M., Caira, M., & Aiudi, G.G. (2019). Animals: an open access journal from MDPI, 9(2), 34.
2. Maret, W., & Sandstead, H. (2013). Journal of Trace Elements in Medicine and Biology, 27(3), 192-200.
3. Lenox, C., & Bauer, J. (2010). Journal of Feline Medicine and Surgery, 12(6), 431-437.
4. Fontaine E. (2012). Reproduction in domestic animals = Zuchthygiene, 47(Suppl 6), 326-330.

[†]Safe use in pregnant animals or animals intended for breeding has not been proven. If the animal's condition worsens or does not improve, stop product administration. Qualified veterinary professionals are expected to apply their own professional judgment as to the appropriate use of these supplements and the correct dose.

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