

Animal nutrients are essential substances derived from animals, or are essential to animals' nutrition and health, either as part of their diet or through specific extracts, compounds, or by-products. These nutrients are used in the animal feed, pharmaceutical, nutraceutical, and cosmeceutical industries for both animal health and human products. Below is a list of key animal nutrients:

1. Omega-3 Fatty Acids

- **Sources:** Fish oil (e.g., salmon, mackerel), krill oil, cod liver oil.
- **Uses:** Supports cardiovascular health, brain function, anti-inflammatory properties, improves skin health.
- **Key Components:** EPA (eicosapentaenoic acid), DHA (docosahexaenoic acid).

2. Collagen

- **Sources:** Animal connective tissues, skin, bone (commonly from cows, pigs, fish).
- **Uses:** Joint health, skin elasticity, anti-aging benefits, wound healing, bone strength.
- **Forms:** Hydrolyzed collagen (collagen peptides), gelatin.

3. Gelatin

- **Sources:** Derived from collagen in animal bones, skin, and connective tissues.
- **Uses:** Gelatin is used as a thickener in food, as well as in pharmaceutical capsules and nutraceutical formulations.
- **Key Components:** Collagen peptides, proline, glycine.

4. Chondroitin Sulfate

- **Sources:** Animal cartilage (typically from sharks, cows, pigs).
- **Uses:** Joint health, aids in cartilage regeneration, reduces osteoarthritis symptoms.
- **Forms:** Chondroitin sulfate supplements, often combined with glucosamine.

5. Glucosamine

- **Sources:** Shellfish shells, animal cartilage.
- **Uses:** Supports joint health, reduces inflammation, enhances cartilage repair.
- **Forms:** Glucosamine sulfate, glucosamine hydrochloride.

6. L-Carnitine

- **Sources:** Red meat, particularly beef and lamb.
- **Uses:** Supports fat metabolism, energy production, muscle health.
- **Forms:** L-carnitine supplements, often used for weight management and athletic performance.

7. Coenzyme Q10 (CoQ10)

- **Sources:** Meat, particularly organ meats like liver and heart.
- **Uses:** Antioxidant properties, supports heart health, energy production, anti-aging.
- **Forms:** CoQ10 supplements (ubiquinone, ubiquinol).

8. Vitamin B12

- **Sources:** Animal products such as meat, eggs, dairy, and fish.
- **Uses:** Vital for red blood cell formation, neurological health, DNA synthesis.
- **Forms:** B12 injections, oral supplements, B12-fortified foods.

9. Liver Extract

- **Sources:** Beef, chicken, pork liver.
- **Uses:** High in essential vitamins (e.g., vitamin A, B12, iron), supports energy, immunity, and blood health.
- **Forms:** Liver capsules, nutritional supplements.

10. Hyaluronic Acid

- **Sources:** Animal tissues, particularly from rooster combs.

- **Uses:** Skin hydration, joint lubrication, anti-aging, wound healing.
- **Forms:** Injectable forms, oral supplements, and topical applications.

11. Beta-Glucans

- **Sources:** Yeast, mushrooms, and oats (sometimes also derived from animal sources like fish or fungi).
- **Uses:** Immune system support, anti-inflammatory properties, improves cholesterol levels.
- **Forms:** Beta-glucan supplements (yeast or mushroom-based).

12. Probiotics (Animal-Based)

- **Sources:** Animal gut flora (often from cows or other mammals).
- **Uses:** Supports gut health, boosts immunity, aids in digestion.
- **Forms:** Animal-derived probiotic supplements (e.g., lactobacillus, bifidobacterium strains).

13. Creatine

- **Sources:** Red meat, fish.
- **Uses:** Muscle energy, improved athletic performance, muscle recovery.
- **Forms:** Creatine monohydrate supplements, often used by athletes and bodybuilders.

14. Whey Protein

- **Sources:** Milk (a byproduct of cheese production).
- **Uses:** Protein supplement for muscle building, post-exercise recovery, and overall protein intake.
- **Forms:** Whey protein isolate, concentrate, and hydrolysate.

15. Royal Jelly

- **Sources:** Secreted by worker bees.
- **Uses:** Supports immune function, anti-aging, boosts energy and vitality.
- **Key Compounds:** Proteins, lipids, vitamins, amino acids.

16. Bee Pollen

- **Sources:** Collected by bees from flower pollen.
- **Uses:** Rich in nutrients, antioxidants, and anti-inflammatory compounds.
- **Forms:** Bee pollen granules, capsules, and powder.

17. Fish Collagen

- **Sources:** Fish scales, skin, and bones (primarily from marine fish).
- **Uses:** Promotes skin elasticity, improves joint health, aids in collagen production.
- **Forms:** Hydrolyzed fish collagen peptides.

18. Ostrich Oil

- **Sources:** Extracted from the fat of ostriches.
- **Uses:** Skin hydration, anti-inflammatory properties, reduces eczema, psoriasis.
- **Forms:** Skin creams, lotions, and massage oils.

19. Eggshell Membrane

- **Sources:** The thin membrane between the eggshell and egg white.
- **Uses:** Joint health, improves flexibility, cartilage repair.
- **Forms:** Eggshell membrane powder or capsules.

20. Fish Liver Oil

- **Sources:** Cod liver, other fish livers.
- **Uses:** Rich in vitamins A and D, supports immune health, bone health, and skin health.
- **Forms:** Cod liver oil capsules, liquid.

21. Bone Marrow

- **Sources:** The soft tissue inside animal bones (primarily beef and chicken).

- **Uses:** Supports bone health, joint health, and can enhance immune function.
- **Forms:** Bone marrow extracts, bone broth.

These **animal-based nutrients** are essential in promoting animal and human health, supporting joint health, enhancing skin elasticity, improving cognitive and heart function, boosting immunity, and more. Many of them are used as dietary supplements, in pharmaceutical formulations, and in skincare products.