

MULTIVITAMIN & MINERAL

Food is the dominant means of obtaining nutrients. However, in recent years, the nutritional value of food sources has decreased. As a result, supplementing our diet with vitamins and minerals has become common.

As the chart on this page indicates, food is the most effective nutrient delivery system. Yet Food State nutrients come closest to replicating the nutritional value of food. In contrast, chelated and isolated (USP) vitamins and minerals fall well short of providing the nutritional value of food (or Food State nutrients) and therefore provide less support to the body.

The Advantages of Food State Nutrients

Being 90% effective and the closest form of supplementation to food, Food State nutrients allow for much greater absorption and more fully deliver the benefits of the vitamins and minerals they contain. In this way, they are fundamentally different from, and substantially more effective than, conventional chemically-based USP supplements, which are pharmaceutically produced as 'free state' compounds without the inherent advantage of a natural food matrix.

Food State nutrients:

- 1) Are more effectively absorbed into the bloodstream.
- 2) Remain in the bloodstream longer (and therefore are excreted more slowly in the urine).
- 3) Are considerably less prone to cause trace mineral toxicity.
- 4) Are more gentle on the stomach.
- 5) Perform significantly better in terms of physiological activity.



The higher quality, increased effectiveness and greater nutritional value of Food State supplements means that required dosages can be significantly lower than for other forms of supplements, the risk of unwanted effects are reduced and they offer a better "value for money" proposition.

Multivitamin and Mineral: This natural Food State supplement has been carefully formulated to provide the optimal combination of nutrients the body most needs and is lacking in today's food and diets. It is formulated and manufactured in a natural food matrix format and provides the optimum structure for the body to absorb, and benefit from. Accordingly, it provides significantly greater effectiveness and nutritional benefit than traditional supplements.

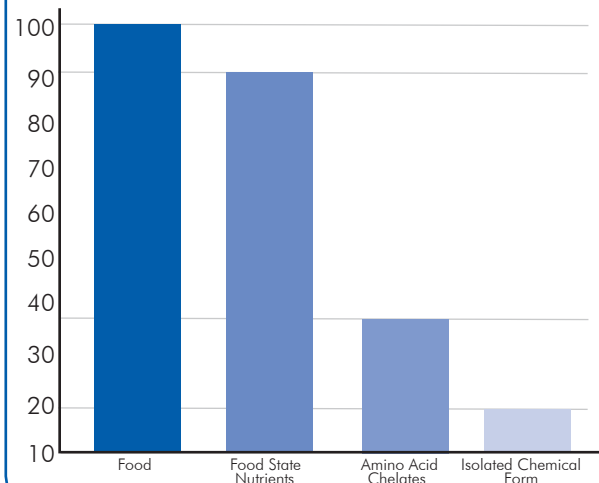
Recommended Dosage (adult): Take one tablet a day or as directed by a healthcare practitioner.

Medicinal Ingredients:

Each tablet contains:

| | | | | | |
|---------------|--------|----------------|--------|------------|---------|
| Beta carotene | 2.4 mg | Panthenic acid | 3.0 mg | Copper | 0.25 mg |
| Vitamin B1 | 0.7 mg | Biotin | 76 µg | Manganese | 0.25 mg |
| Vitamin B2 | 0.8 mg | Folate | 100 µg | Selenium | 50 µg |
| Vitamin B3 | 9.0 mg | Calcium | 9 mg | Chromium | 25 µg |
| Vitamin B6 | 1.0 mg | Magnesium | 3 mg | Boron | 0.5 mg |
| Vitamin B12 | 0.5 µg | Potassium | 6 mg | Molybdenum | 5.0 µg |
| Vitamin C | 30 mg | Phosphorus | 6 mg | Choline | 2.5 mg |
| Vitamin D | 2.5 µg | Iron | 2.5 mg | Inositol | 2.5 mg |
| Vitamin E | 5.0 mg | Zinc | 2.5 mg | PABA | 2.5 mg |
| Vitamin K | 20 µg | Iodine | 75 µg | | |

The Effectiveness of Nutrients from Different Sources



Note: Refer to study on reverse side for a comparison of bio-availability of Food State and conventional vitamins.

COMPARING THE BIO-AVAILABILITY OF FOOD STATE & CONVENTIONAL VITAMIN AND MINERAL SUPPLEMENTS

Background

Vitamins and minerals are required for animal and human health. One of the most critical periods for vitamin and mineral nutrition is from birth to adulthood during the time of rapid growth. A deficiency of vitamins and minerals can lead to a slowing of growth, ill health and ultimately, death.

In this study, two different vitamin and mineral combinations are compared in a small mammal assay. Equal amounts of the two combinations are given to weanling rats depleted of body vitamin and mineral stores. The growth of the animals is used as a measure of the relative availability of the supplements.

Protocol

Sixteen weanling rats were divided into two groups of equal average weight. The One a Day (USP Isolate) group weighed 47.3 ± 3.8 grams and the FoodMatrix™ group weighed 47.1 ± 4.0 grams. All animals were individually housed. Each group was depleted of body vitamins and mineral stores by feeding a diet containing no vitamins and minerals for two weeks. Then they were repleted by feeding the same diet to which has been added either 10 USP Isolate Vitamin and Mineral tablets/kg of diet or 60 grams of FoodMatrix™ and Mineral Mix/kg of diet. The quantities of vitamins and minerals in the two supplements are listed below.

The recommended amount is taken from the "Nutrient Requirements for Laboratory Animals" published by the National Academy of Sciences in 1978. It is the amount recommended for optimum growth. As shown, the diet provides more than the

VITAMIN AND MINERAL COMPOSITION USED

| Component | Amount / kg food USP | (Recommended) Amount / kg Food Food Matrix™ |
|----------------|-------------------------|---|
| Vitamin A | 50,000 I.U. | 4,000 I.U. |
| Vitamin E | 300 I. U. | 300 I.U. |
| Vitamin C | 600 mg | - |
| Folic Acid | 4 mg | 1 mg |
| Thiamine | 15 mg | 4 mg |
| Riboflavin | 17 mg | 3 mg |
| Niacin | 200 mg | 20 mg |
| B6 | 20 mg | 6 mg |
| B12 | 60 ug | 50 ug |
| Vitamin D | 4000 I.U. | 1,000 I.U. |
| Panthenic Acid | 100 mg | 8 mg |
| Iron | 180 mg | 35 mg |
| Calcium | 1000 mg | 500 mg |
| Phosphorus | 1000 mg | 400 mg |
| Iodine | 1500 mg | 35 ug |
| Magnesium | 1000 mg | 400 mg |
| Copper | 20 mg | 5 mg |
| Zinc | 150 mg | 12 mg |

minimum amount of most vitamins and minerals. It, however, does not provide sufficient amounts of calcium and phosphorus. It contains only the recommended amount of Vitamin E.

The two groups of animals were pair-fed to insure that the amount of food eaten by both groups was the same. This means that differences in weight between the two groups was not due to differences in the amounts of food consumed. The animals were weighed weekly during the study.

The average weight of the two groups before the study was the same. The first two weeks were the depletion period and in both groups after two weeks there was only a slight weight gain relative to time zero. At the time of two weeks, the two groups were supplemented with equal amounts of vitamin and minerals and the FoodMatrix™ group began to record gains in weight indicative of repletion of body stores of vitamins and minerals. The USP Isolate group continued to maintain a constant weight indicating both stores of vitamins and minerals were not being repleted. At the end of three weeks, one of the USP Isolate group died and a second rat died at the end of four weeks. A plot of the results is shown in the accompanying graph.

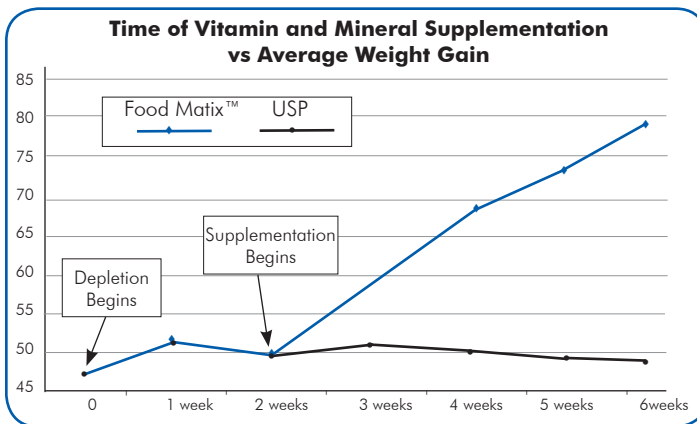
Study Results

The results of the study are shown below. Average Weights (in g)

| Group | 0 | 1 week | 2 weeks | 3 weeks | 4 weeks | 5 weeks | 6 weeks |
|--------------|------|--------|---------|---------|---------|---------|---------|
| USP Isolate | 47.1 | 51.6 | 49.0 | 51.3 | 50.6 | 49.2 | 48.6 |
| Food Matrix™ | 47.3 | 51.1 | 49.5 | 58.4 | 68.0 | 72.7 | 80.4 |

Another difference in the two groups was their appearance and general health. The eyes of the USP Isolate group were almost closed by the end of five weeks. Their hair was fine and sparse. One of the USP Isolate animals had scratched one of his eyes out. The USP Isolate group was very sluggish in movements as compared to the FoodMatrix™ group.

These results indicate that the vitamins and minerals in the FoodMatrix™ product are much more available to the growing rodent than the vitamins and minerals in the USP Isolate product.



Study by: Prof. Joe Vinson, PhD, University of Scranton, 1988.