Q: How do I calculate the ratio of calcium to phosphorus when I am feeding several different foods?

A: Please keep in mind that it is not just the ratio but the actual amounts of calcium & phosphorus in the foods you combine that you need to be concerned with. Calcium & phosphorus amounts depend on the volume of the foods combined. Ratios do not change with the volume for a single food.

To calculate the ratio for a diet that contains several different foods, you must determine the amount of calcium and the amount of phosphorus in the volume of each food you are combining. You then add all the calcium amounts in mg, add all the phosphorus amounts in mg then divide the total mg calcium by the total mg phosphorus to get the first part of the ratio compared to 1 part phosphorus.

You cannot simply add ratios to get a combined value. Click here to read examples of the calculations and how adding ratios can give incorrect values. Adding ratios may not give you a real combined ratio.

Example using 1 TBS portions of 2 foods:

Parsley 2.4:1 ratio
5.18 mg Calcium : 2.18 mg Phosphorus
Carrots 1.1:1 ratio
2.56 mg Calcium : 1.24 mg Phosphorus

Adding Ratios only 2.4 + 1.1 = 3.5/2 = 1.75:1

adding the C&P amounts (mg)
5.18 mg + 2.56 mg = 7.74 mg Calcium
2.18 mg + 1.24 mg = 3.42 mg Phosphorus
7.74 mg / 3.42 mg = 2.26:1 ratio

Another Example of 1 TBS portions of 2 foods:

Green Beans 1:1 ratio
2.54 mg Calcium : 2.61 mg Phosphorus
Papaya 4.8:1 ratio
2.10 mg Calcium : 0.44 mg Phosphorus

If you add Ratios only 4.8+1= 5.8/2 = 2.9:1

adding the C&P amounts (mg)
2.54 mg + 2.10 mg = 4.64 mg Calcium
2.61 mg + 0.44 mg = 3.05 mg Phosphorus
4.64 mg / 3.05 mg = 1.52:1 ratio

As you can see - adding ratios ONLY can give you either a high or low value compared to the ratio calculated properly by adding the calcium amount in mg and the phosphorus amounts in mg THEN DIVIDING the total calcium by the total phosphorus.

If you use different amounts of each food, the calcium and phosphorus amounts depend on the AMOUNT of the food used in your combination. The RATIO does not change with the amount as both calcium and phosphorus increase proportionately.

If you were to use 1 TBS Green Beans combined with 2 TBS Papaya

Green Beans .. 1:1 2.54 mg Calcium : 2.61 mg Phosphorus
Papaya ..... 4.8:1 4.20 mg Calcium : 0.88 mg Phosphorus

If you add Ratios only 4.8+1= 5.8/2 = 2.9:1
(Ratios do not change with volume)

adding the C&P amounts (mg)
2.54 mg + 4.20 mg = 6.74 mg Calcium
2.61 mg + 0.88 mg = 3.49 mg Phosphorus
6.74 mg / 3.49 mg = 1.93:1 ratio

Compare this with the 1.52:1 ratio for 1 TBS Green Beans and 1 TBS Papaya in the previous example.

The ratio changes in relation to the volume of each food in the combination of foods selected.