Explanation of Calcium to Phosphorous Ratios

Starting on Page 4, the list of vegetables and fruits is arranged so the Highest Ca:Ph ratios are listed on the top, and the lowest ratios on the bottom. Please note that the ratio does not address the absolute amount of any mineral or vitamin. The ratio is just a starting point so you can compare items. You need to actually add up the absolute amounts of calcium and phosphorus in order to mix for a proper balance.

As an example, consider papaya (page 11). Under the "mineral column" you will see that one cup has 33.6 mg. of calcium and 7 mg of Phosphorous. Those numbers are the "absolute" value of those mineral contents. If you divide one into the other, that's where the ratio is derived. As you can see the ratio does not reveal the absolute value, just the relativity between these two minerals. That's why we took the time to add the absolute values for each portion.

Now look at banana (page 15). An average banana sliced is about a cup or slightly more so you have to measure it. Anyway, one cup of banana has 7 mg of calcium and 27 mg of phosphorus. So if you wanted to offer both Papaya and Banana together, you'd want to offer them in the correct proportion to get a 2:1 ratio of Calcium to Phosphorous. Here is a one cup comparison:

	1c. Papaya	**1c. Banana**	**TOTAL**
Calcium	33.6 mg.	7 mg.	40.6 mg.
Phosphorous	7 mg.	27 mg.	34 mg

As you can see, one cup of each side by side does NOT offer a 2:1 ratio. In fact 40.6 mg of Calcium and 34 mg of Phosphorus is a 1.2:1 ratio. (40.6 divided by 34 = 1.2 or a ratio of 1.2:1)

So in order to bring the ratio to optimal range (2:1 Ca:Ph) you'd have to double the amount of Papaya versus banana. So now, instead of tallying-up the contents of 1 cup of Papaya and 1 cup of Banana, let’s try 2 cups of Papaya and 1 cup of banana:

	2c. Papaya	**1c. Banana**	**TOTAL**
Calcium	67.2 mg.	7 mg.	74.2 mg.
Phosphorous	14 mg.	27 mg.	41 mg

Now, by changing the amount of Papaya we have a total of 74.2 mg of Calcium and 41 mg of Phosphorus for a 1.8:1 ratio. (74.2 divided by 41 = 1.8 or a ratio of 1.8:1). That’s not perfectly 2:1 but it’s pretty close.

If you are concerned they would favor one fruit or veggie over the other and therefore not get the correct ratio, you can always blend the fruits and veggies.

In the beginning, you can avoid all these calculations by just sticking to the fruits and veggies that already have a 2:1 ratio or close to it (pineapple, blackberries, oranges and grapes together make about 2:1 in the same portions). But variety is good and Ca:Ph are not the only minerals they should get.

Of course, this simpler way of calculating things does not give the variety, so after you get started, you can branch out to the stuff on the opposite ends of the scale and start mixing and matching once you get the hang of it.

Be sure to offer a mix of veggies and fruit that provide ample Vitamin A, B2, C, and minerals such as iron and potassium in addition to Calcium and Phosphorus. The good news is it is nearly impossible for a glider to be "oversupplemented" on these natural foods. It's much easier to hurt their liver and other internal organs with supplement powders.

By paying attention to these values, you can cut back dramatically on supplements. By educating yourself on these nutritional values, you will do a better job of offering a more healthy, natural, and well-rounded diet. And you will begin to question "why" so many supplements are used and start looking more closely at the ingredients of the foods you consider offering your precious pets.

A Word About Oxalates

Naturally occurring Oxalates bind with iron and calcium in foods so the body cannot properly utilize all of the calcium and iron in that food. Oxalate does not stop the synthesis of iron or calcium in the other foods in a diet, but only the food containing oxalate. It is recommended that you do not use foods high in oxalate every day and to rotate fruits and veggies enough to account for this. For example, if you offered Spinach every day because it is high in calcium, consider that a lot of the calcium is not being absorbed because of the Oxalates. So you should not feed spinach every day… The following charts were adapted from a University of Pittsburgh Medical Center white paper on "Low Oxalate Diet" copyrighted and dated 2006.

HIGH Oxalate Vegetables	HIGH Oxalate Fruits
beans (baked, green, dried, kidney)	blackberries
beets	blueberries
celery	concord grapes
carrots	figs
collards	kiwi
eggplant	lemon peel
kale	lime peel
okra	orange peel
parsley	raspberries
rutabaga	rhubarb
spinach	strawberries
summer squash	tangerines
sweet potato	
Swiss chard	
zucchini	

MODERATE Oxalate Vegetables	MODERATE Oxalate Fruits
artichoke	apples
asparagus	applesauce
broccoli	apricots
Brussels sprouts	coconut
carrots	cranberries
corn	mandarin orange
fennel	orange
lettuce	fresh peaches
parsnip	fresh pear
peas	pineapples
tomato	plums
turnips	prunes
watercress	strawberries

LOW Oxalate Vegetables	LOW Oxalate Fruits
cabbage	avocados
cauliflower	bananas
cucumber	cherries (bing and sour)
endive	grapefruit
mushrooms	grapes (green and red)
peas	mangoes
	melons
	nectarines
	papaya
	peaches
	pears
	plums (green and yellow)

Here are some examples of the relative content of oxalates in popular veggies (source: whfoods.org). Although not high in calcium, Asparagus is being researched as a food that breaks down oxalate crystals:

Raw Vegetable	Oxalate content per cup
Spinach	140 mg
Okra	180 mg
Parsley	290 mg
Collard greens	140 mg

IU Conversion

International Unit (IU) conversions
1 IU is the same as 0.3 micrograms (0.0003 mg) for vitamin A
1 IU is the same as 50 micrograms (0.05 mg) for vitamin C
1 IU is the same as 660 micrograms (>66 mg) for (natural) vitamin E
1 IU is the same as 25 nanograms (0.000 025 mg) for vitamin D

Calcium & Phosphorus Content Of Selected Foods

VEGETABLE RATIOS: CA:PH (2:1 is Optimal)

Ca:Ph Ratio	Vegetable / Portion	Minerals	Vitamins
16.31:1	Collards / 1 cup	Calcium 52.2 mg, Iron 0.1 mg, Magnesium 3.2 mg, Phosphorus 3.6 mg, Potassium 60.8 mg, Sodium 7.2 mg, Zinc 0.0 mg, Copper 0.0 mg, Manganese 0.1 mg, Selenium 0.5 mcg.	Vitamin A 2400 IU, Vitamin C 12.7 mg, Vitamin E (Alpha Tocopherol) 0.8 mg, Niacin 0.3 mg, Vitamin B6 0.1 mg, Pantothenic Acid 0.1 mg, Lutein+Zeaxanthin 3215 mcg, Beta Carotene 1383 mcg, Vitamin K 184 mcg, Retinol Activity Equivalent 120 mcg, Alpha Carotene 85.7 mcg, Folate 59.8 mcg, Food Folate 59.8 mcg, Dietary Folate Equivalents 59.8 mcg.
5.21:1	Cucumber / 1/2 cup	Potassium - 74.9 mg, Phosphorus - 1.4 mg, Magnesium - 5.7 mg, Sodium - 1 mg, Calcium - 7.3 mg, Also contains small amounts of selenium, iron, manganese, copper and zinc.	Vitamin C - 2.6 mg, Vitamin A - 111.8 IU, Contains some other vitamins in small amounts.
2.38:1	Parsley / 1 cup	Calcium 82.8 mg, Iron 3.7 mg, Magnesium 30.0 mg, Phosphorus 34.8 mg, Potassium 332 mg, Sodium 33.6 mg, Zinc 0.6 mg, Copper 0.1 mg, Manganese 0.1 mg, Selenium 0.1 mcg.	Vitamin A 5055 IU, Vitamin C 79.8 mg, Niacin 0.8 mg, Vitamin E (Alpha Tocopherol) 0.4 mg, Gamma Tocopherol 0.3 mg, Pantothenic Acid 0.2 mg, Thiamin 0.1 mg, Riboflavin 0.1 mg, Vitamin B6 0.1 mg, Lutein+Zeaxanthin 3337 mcg, Beta Carotene 3032 mcg, Vitamin K 984 mcg, Retinol Activity Equivalent 253 mcg, Folate 91.2 mcg, Food Folate 91.2 mcg, Dietary Folate Equivalents 91.2 mcg.
2.02:1	Spinach / 1 cup	Potassium - 167.4 mg, Phosphorus - 14.7 mg, Magnesium - 23.7 mg, Calcium - 29.7 mg, Sodium - 23.7 mg, Iron - .81 mg, Selenium - .3 mg, - Vitamin K - 145 mcg, Also contains small amounts of manganese, copper and zinc.	Vitamin A 2813 IU (0.84 mg), Vitamin C - 8.43 mg, Folate - 58.2 mcg, Contains some other vitamins in small amounts.
2.00:1	Watercress / 1 cup	Calcium 40.8 mg, Iron 0.1 mg, Magnesium 7.1 mg, Phosphorus 20.4 mg, Potassium 112 mg, Sodium 13.9 mg, Zinc 0.0 mg, Copper 0.0 mg, Manganese 0.1 mg, Selenium 0.3 mcg.	Vitamin A 1598 IU, Vitamin C 14.6 mg, Vitamin E (Alpha Tocopherol) 0.3 mg, Niacin 0.1 mg, Pantothenic Acid 0.1 mg, Lutein+Zeaxanthin 1961 mcg, Beta Carotene 959 mcg, Vitamin K 85.0 mcg, Retinol Activity Equivalent 79.9 mcg, Folate 3.1 mcg, Food Folate 3.1 mcg, Dietary Folate Equivalents 3.1 mcg.

Ca:Ph Ratio	Vegetable / Portion	Minerals	Vitamins
1.86:1	Endive / 1/2 cup	Calcium 13.0 mg, Iron 0.2 mg, Magnesium 3.7 mg, Phosphorus 7.0 mg, Potassium 78.5 mg, Sodium 5.5 mg, Zinc 0.2 mg, Copper 0.0 mg, Manganese 0.1 mg, Selenium 0.0 mcg.	Vitamin A 542 IU, Vitamin C 1.6 mg, Pantothenic Acid 0.2 mg, Vitamin E (Alpha Tocopherol) 0.1 mg, Niacin 0.1 mg, Beta Carotene 325 mcg, Vitamin K 57.7 mcg, Folate 35.5 mcg, Food Folate 35.5 mcg, Dietary Folate Equivalents 35.5 mcg, Retinol Activity Equivalent 27.0 mcg.
1.54:1	Cabbage / 2 cup	Calcium 35.6 mg, Iron 0.4 mg, Magnesium 10.7 mg, Phosphorus 23.1 mg, Potassium 151 mg, Sodium 16.0 mg, Zinc 0.2 mg, Copper 0.0 mg, Manganese 0.1 mg, Selenium 0.3 mcg, Fluoride 0.9 mcg.	Vitamin A 87.2 IU, Vitamin C 32.6 mg, Choline 9.5 mg, Betaine 0.4 mg, Niacin 0.2 mg, Pantothenic Acid 0.2 mg, Vitamin E (Alpha Tocopherol) 0.1 mg, Thiamin 0.1 mg, Vitamin B6 0.1 mg, Vitamin K 67.6 mcg, Folate 38.3 mcg, Food Folate 38.3 mcg, Dietary Folate Equivalents 38.3 mcg, Beta Carotene 37.4 mcg, Alpha Carotene 29.4 mcg, Lutein+Zeaxanthin 26.7 mcg, Retinol Activity Equiv 4.5 mcg.
1.29:1	Okra / 1 cup	Calcium 81.0 mg, Iron 0.8 mg, Magnesium 57.0 mg, Phosphorus 63.0 mg, Potassium 303 mg, Sodium 8.0 mg, Zinc 0.6 mg, Copper 0.1 mg, Manganese 1.0 mg, Selenium 0.7 mcg.	Vitamin A 375 IU, Vitamin C 21.1 mg, Niacin 1.0 mg, Vitamin E (Alpha Tocopherol) 0.4 mg, Thiamin 0.2 mg, Vitamin B6 0.2 mg, Pantothenic Acid 0.2 mg, Riboflavin 0.1 mg, Lutein+Zeaxanthin 516 mcg, Beta Carotene 225 mcg, Folate 88.0 mcg, Food Folate 88.0 mcg, Dietary Folate Equivalents 88.0 mcg, Vitamin K 53.0 mcg, Retinol Activity Equiv 19.0 mcg.
1.25:1	Lettuce (dark green leaf) / 1 cup	Calcium 13.0 mg, Iron 0.3 mg, Magnesium 4.7 mg, Phosphorus 10.4 mg, Potassium 69.8 mg, Sodium 10.1 mg, Zinc 0.1 mg, Copper 0.0 mg, Manganese 0.1 mg, Selenium 0.2 mcg.	Vitamin A 2665 IU, Vitamin C 6.5 mg, Vitamin E (Alpha Tocopherol) 0.1 mg, Gamma Tocopherol 0.1 mg, Niacin 0.1 mg, Beta Carotene 1599 mcg, Lutein+Zeaxanthin 623 mcg, Retinol Activity Equivalent 133 mcg, Vitamin K 62.5 mcg, Folate 13.7 mcg, Food Folate 13.7 mcg, Dietary Folate Equivalents 13.7 mcg.
1.25:1	Radish / 1 cup	Calcium 29.0 mg, Iron 0.4 mg, Magnesium 11.6 mg, Phosphorus 23.2 mg, Potassium 270 mg, Sodium 45.2 mg, Zinc 0.3 mg, Copper 0.1 mg, Manganese 0.1 mg, Selenium 0.7 mcg, Fluoride 7.0 mcg.	Vitamin A 8.1 IU, Vitamin C 17.2 mg, Choline 7.5 mg, Niacin 0.3 mg, Pantothenic Acid 0.2 mg, Vitamin B6 0.1 mg, Betaine 0.1 mg, Folate 29.0 mcg, Food Folate 29.0 mcg, Dietary Folate Equivalents 29.0 mcg, Lutein+Zeaxanthin 11.6 mcg, Beta Carotene 4.6 mcg, Vitamin K 1.5 mcg.

Ca:Ph Ratio	Vegetable / Portion	Minerals	Vitamins
1.21:1	Squash, Winter / 1 cup	Potassium - 406 mg, Phosphorus - 26.7 mg, Magnesium - 16.2 mg, Calcium - 32.5 mg, Sodium - 4.6 mg, Iron - .52 mg, Selenium - .5 mcg, Also contains small amounts of manganese, copper and zinc.	Vitamin A - 1586 IU, Vitamin C - 14.3 mg, Niacin - .6 mg, Folate - 27.8 mcg, Pantothenic Acid - .2 mg, Contains some other vitamins in small amounts.
1.11:1	Turnips / 1 cup	Calcium 39.0 mg, Iron 0.4 mg, Magnesium 14.3 mg, Phosphorus 35.1 mg, Potassium 248 mg, Sodium 87.1 mg, Zinc 0.4 mg, Copper 0.1 mg, Manganese 0.2 mg, Selenium 0.9 mcg.	Vitamin C 27.3 mg, Niacin 0.5 mg, Pantothenic Acid 0.3 mg, Thiamin 0.1 mg, Vitamin B6 0.1 mg, Folate 19.5 mcg, Food Folate 19.5 mcg, Dietary Folate Equivalents 19.5 mcg, Vitamin K 0.1 mcg.
1.11:1	Chard / 1 cup	Calcium 18.4 mg, Iron 0.6 mg, Magnesium 29.2 mg, Phosphorus 16.6 mg, Potassium 136 mg, Sodium 76.7 mg, Zinc 0.1 mg, Copper 0.1 mg, Manganese 0.1 mg, Selenium 0.3 mcg.	Vitamin A 2202 IU, Vitamin C 10.8 mg, Vitamin E (Alpha Tocopherol) 0.7 mg, Niacin 0.1 mg, Pantothenic Acid 0.1 mg, Lutein+Zeaxanthin 3960 mcg, Beta Carotene 1313 mcg, Vitamin K 299 mcg, Retinol Activity Equivalent 110 mcg, Alpha Carotene 16.2 mcg, Folate 5.0 mcg, Food Folate 5.0 mcg, Dietary Folate Equivalents 5.0 mcg.
1.03:1	Carrots / 1/2 cup	Potassium - 177 mg, Sodium - 51.5 mg, Calcium - 24 mg, Phosphorus - 23.4 mg, Magnesium - 10 mg, Iron - .48 mg, Also contains small amounts of selenium, manganese, copper and zinc.	Vitamin A - 19,152 IU, Vitamin C - 1.8 mg, Niacin - .4 mg, Folate - 11 mcg, Pantothenic Acid - .2 mg, Vitamin B6 - .2 mg, Contains some other vitamins in small amounts.
0.97:1	Green Beans / 1 cup	Calcium 40.7 mg, Iron 1.1 mg, Magnesium 27.5 mg, Phosphorus 41.8 mg, Potassium 230 mg, Sodium 6.6 mg, Zinc 0.3 mg, Copper 0.1 mg, Manganese 0.2 mg, Selenium 0.7 mcg, Fluoride 20.9 mcg.	Vitamin A 759 IU, Vitamin C 17.9 mg, Niacin 0.8 mg, Vitamin E (Alpha Tocopherol) 0.5 mg, Thiamin 0.1 mg, Riboflavin 0.1 mg, Vitamin B6 0.1 mg, Pantothenic Acid 0.1 mg, Lutein+Zeaxanthin 704 mcg, Beta Carotene 417 mcg, Alpha Carotene 75.9 mcg, Folate 40.7 mcg, Food Folate 40.7 mcg, Dietary Folate Equivalents 40.7 mcg, Retinol Activity Equivalent 38.5 mcg, Vitamin K 15.8 mcg.
0.97:1	Yellow Wax Beans / 1 cup	Calcium 40.7 mg, Iron 1.1 mg, Magnesium 27.5 mg, Phosphorus 41.8 mg, Potassium 230 mg, Sodium 6.6 mg, Zinc 0.3 mg, Copper 0.1 mg, Manganese 0.2 mg, Selenium 0.7 mcg.	Vitamin A 119 IU, Vitamin C 17.9 mg, Niacin 0.8 mg, Thiamin 0.1 mg, Riboflavin 0.1 mg, Vitamin B6 0.1 mg, Pantothenic Acid 0.1 mg, Folate 40.7 mcg, Food Folate 40.7 mcg, Dietary Folate Equivalents 40.7 mcg, Retinol Activity Equivalent 5.5 mcg.

Ca:Ph Ratio	Vegetable / Portion	Minerals	Vitamins
0.90:1	Lettuce (head,iceberg) / 1 cup	Calcium 13.0 mg, Iron 0.3 mg, Magnesium 5.0 mg, Phosphorus 14.4 mg, Potassium 102 mg, Sodium 7.2 mg, Zinc 0.1 mg, Copper 0.0 mg, Manganese 0.1 mg, Selenium 0.1 mcg.	Vitamin A 361 IU, Choline 4.8 mg, Vitamin C 2.0 mg, Vitamin E (Alpha Tocopherol) 0.1 mg, Gamma Tocopherol 0.1 mg, Niacin 0.1 mg, Pantothenic Acid 0.1 mg, Betaine 0.1 mg, Beta Carotene 215 mcg, Lutein+Zeaxanthin 199 mcg, Folate 20.9 mcg, Food Folate 20.9 mcg, Dietary Folate Equivalents 20.9 mcg, Retinol Activity Equivalent 18.0 mcg, Vitamin K 17.4 mcg, Alpha Carotene 2.9 mcg.
0.88:1	Kale / 1 cup	Potassium - 296.4 mg, Phosphorus - 36.4 mg, Magnesium - 23.4 mg, Calcium - 32 mg, Sodium - 29.9 mg, Iron - 1.2 mg, Manganese - .5 mg, Selenium - 1.2 mg, Vitamin K - 1062 mcg Also contains small amounts of copper and zinc.	Vitamin A - 9,620 IU, Vitamin C - 53.3 mg, Niacin - .6 mg, Folate - 17 mcg, Contains some other vitamins in small amounts.
0.81:1	Rutabaga / 1 cup	Calcium 65.8 mg, Iron 0.7 mg, Magnesium 32.2 mg, Phosphorus 81.2 mg, Potassium 472 mg, Sodium 28.0 mg, Zinc 0.5 mg, Copper 0.1 mg, Manganese 0.2 mg, Selenium 1.0 mcg	Vitamin A 2.8 IU, Vitamin C 35.0 mg, Niacin 1.0 mg, Vitamin E (Alpha Tocopherol) 0.4 mg, Pantothenic Acid 0.2 mg, Thiamin 0.1 mg, Riboflavin 0.1 mg, Vitamin B6 0.1 mg, Folate 29.4 mcg, Food Folate 29.4 mcg, Dietary Folate Equivalents 29.4 mcg, Beta Carotene 1.4 mcg, Vitamin K 0.4 mcg.
0.78:1	Broccoli / 1/2 cup	Potassium - 228 mg, Phosphorus - 46 mg, Calcium - 36 mg, Sodium - 28 mg, Magnesium - 18.7 mg, Iron - .65 mg, Vitamin K - 110 mcg, Also contains small amounts of selenium, manganese, copper and zinc.	Vitamin A - 1083 IU, Vitamin C - 58 mg, Niacin - .45 mg, Pantothenic Acid - .4 mg, Folate - 39 mcg, Contains some other vitamins in small amounts.
0.61:1	Brussels Sprouts / 1 cup	Calcium 37.0 mg, Iron 1.2 mg, Magnesium 20.2 mg, Phosphorus 60.7 mg, Potassium 342 mg, Sodium 22.0 mg, Zinc 0.4 mg, Copper 0.1 mg, Manganese 0.3 mg, Selenium 1.4 mcg.	Vitamin A 664 IU, Vitamin C 74.8 mg, Vitamin E (Alpha Tocopherol) 0.8 mg, Niacin 0.7 mg, Pantothenic Acid 0.3 mg, Vitamin B6 0.2 mg, Thiamin 0.1 mg, Riboflavin 0.1 mg, Lutein+Zeaxanthin 1399 mcg, Beta Carotene 396 mcg, Vitamin K 156 mcg, Folate 53.7 mcg, Food Folate 53.7 mcg, Dietary Folate Equivalents 53.7 mcg, Retinol Activity Equivalent 33.4 mcg, Alpha Carotene 5.3 mcg.

Ca:Ph Ratio	Vegetable / Portion	Minerals	Vitamins
0.52:1	Artichoke / One medium, cooked	Potassium - 425 mg, Phosphorus - 103 mg, Magnesium - 72 mg, Calcium - 54 mg, Also contains small amounts of selenium, iron, manganese, copper and zinc.	Vitamin C - 12 mg, Niacin - 1.2 mg, Pantothenic Acid - .5 mg, Folate - 61.2 mcg, Vitamin A - 212 IU, Contains some other vitamins in small amounts.
0.51:1	Parsnips / 1 cup	Calcium 47.9 mg, Iron 0.8 mg, Magnesium 38.6 mg, Phosphorus 94.4 mg, Potassium 499 mg, Sodium 13.3 mg, Zinc 0.8 mg, Copper 0.2 mg, Manganese 0.7 mg, Selenium 2.4 mcg.	Vitamin C 22.6 mg, Vitamin E (Alpha Tocopherol) 2.0 mg, Niacin 0.9 mg, Pantothenic Acid 0.8 mg, Thiamin 0.1 mg, Riboflavin 0.1 mg, Vitamin B6 0.1 mg, Folate 89.1 mcg, Food Folate 89.1 mcg, Dietary Folate Equivalents 89.1 mcg, Vitamin K 29.9 mcg.
0.50:1	Cauliflower / 1/2 cup	Potassium - 88 mg, Phosphorus - 19.8 mg, Calcium - 9.9 mg, Sodium - 9.3 mg, Magnesium - 5.6 mg, Also contains small amounts of selenium, iron, manganese, copper and zinc.	Vitamin C - 27.5 mg, Vitamin A - 1.5 IU, Pantothenic Acid - .3 mg, Contains some other vitamins in small amounts.
0.48:1	Green Pepper / One small	Potassium - 131 mg, Phosphorus - 14 mg, Magnesium - 7.4mg, Calcium - 6.7 mg, Sodium - 1.48 mg, Also contains small amounts of selenium, iron, manganese, copper and zinc.	Vitamin A - 467.7i u, Vitamin C - 66 mg, Niacin - .4 mg, Folate - 6.8 mcg, Contains some other vitamins in small amounts.
0.48:1	Pumpkin / 1 cup	Calcium 24.4 mg, Iron 0.9 mg, Magnesium 13.9 mg, Phosphorus 51.0 mg, Potassium 394 mg, Sodium 1.2 mg, Zinc 0.4 mg, Copper 0.1 mg, Manganese 0.1 mg, Selenium 0.3 mcg.	Vitamin A 8567 IU, Vitamin C 10.4 mg, Vitamin E (Alpha Tocopherol) 1.2 mg, Niacin 0.7 mg, Pantothenic Acid 0.3 mg, Thiamin 0.1 mg, Riboflavin 0.1 mg, Vitamin B6 0.1 mg, Beta Carotene 3596 mcg, Beta Cryptoxanthin 2488 mcg, Lutein+Zeaxanthin 1740 mcg, Alpha Carotene 597 mcg, Retinol Activity Equivalent 428 mcg, Folate 18.6 mcg, Food Folate 18.6 mcg, Dietary Folate Equivalents 18.6 mcg, Vitamin K 1.3 mcg.
0.40:1	Beets / 1 cup	Calcium 21.8 mg, Iron 1.1 mg, Magnesium 31.3 mg, Phosphorus 54.4 mg, Potassium 442 mg, Sodium 106 mg, Zinc 0.5 mg, Copper 0.1 mg, Manganese 0.4 mg, Selenium 1.0 mcg, Betaine 175 mg.	Vitamin A 44.9 IU, Choline 8.2 mg, Vitamin C 6.7 mg, Niacin 0.5 mg, Pantothenic Acid 0.2 mg, Vitamin E (Alpha Tocopherol) 0.1 mg, Riboflavin 0.1 mg, Vitamin B6 0.1 mg, Folate 148 mcg, Food Folate 148 mcg, Dietary Folate Equivalents 148 mcg, Beta Carotene 27.2 mcg, Retinol Activity Equivalent 2.7 mcg, Vitamin K 0.3 mcg.

Ca:Ph Ratio	Vegetable / Portion	Minerals	Vitamins
0.39:1	Squash, Summer / 1 cup	Potassium - 296 mg, Phosphorus - 42.9 mg, Magnesium - 19.2 mg, Calcium - 16.9 mg, Sodium - 2.3 mg, Iron - .4 mg, Manganese - .2 mg, Selenium - .2 mg, Zinc - .3 mg, Also contains small amount of copper.	Vitamin A - 226 IU, Vitamin C - 19.2 mg, Niacin - .6 mg, Folate - 32.8 mcg, Contains some other vitamins in small amounts.
0.37:1	Asparagus / 1/2 cup	Potassium - 144 mg, Phosphorus - 48.5 mg, Calcium - 18 mg, Sodium - 10 mg, Magnesium - 9 mg, Also contains small amounts of selenium, iron, manganese, copper and zinc.	Vitamin A - 485 IU, Vitamin C - 9.7 mg, Niacin - .974 mg, Folate - 131 mcg, Contains some other vitamins in small amounts.
0.36:1	Eggplant / 1 cup	Calcium 7.4 mg, Iron 0.2 mg, Magnesium 11.5 mg, Phosphorus 20.5 mg, Potassium 189 mg, Sodium 1.6 mg, Zinc 0.1 mg, Copper 0.1 mg, Manganese 0.2 mg, Selenium 0.2 mcg.	Vitamin A 22.1 IU, Vitamin C 1.8 mg, Niacin 0.5 mg, Vitamin E (Alpha Tocopherol) 0.2 mg, Pantothenic Acid 0.2 mg, Vitamin B6 0.1 mg, Folate 18.0 mcg, Food Folate 18.0 mcg, Dietary Folate Equivalents 18.0 mcg, Beta Carotene 13.1 mcg, Vitamin K 2.9 mcg, Retinol Activity Equivalent 0.8 mcg.
0.23:1	Peas / 1 cup	Potassium - 433.6 mg, Phosphorus - 187.2 mg, Magnesium - 62.4 mg, Calcium - 43.2 mg, Sodium - 4.8 mg, Selenium - 3.0 mg, Iron - 2.5 mg, Zinc - 1.9 mg, Manganese - .8 mg, Also contains small amount of copper.	Vitamin A - 955.2iu, Vitamin C - 22.72 mg, Niacin - 3.23 mg, Folate - 100.8 mcg, Vitamin B1 (thiamine) - .41 mg, Vitamin B6 - .35 mg, Contains some other vitamins in small amounts.
0.21:1	Sweet Potatoes / One medium	Potassium - 273 mg, Phosphorus - 29.5 mg, Magnesium - 13.5 mg, Calcium - 6.2 mg, Sodium - 11.0 mg, Iron - .55 mg, Selenium - .5 mg, Manganese - .6 mg, Zinc - .3 mg, Also contains small amount of copper.	Vitamin A - 24,877 mg, Vitamin C - 28.0 mg, Pantothenic Acid - .74 mg, Niacin - .69 mg, Folate - 26.2 mcg, Contains some other vitamins in small amounts.
0.10:1	Potatoes / One medium	Potassium - 610 mg, Phosphorus - 78 mg, Magnesium - 39 mg, Calcium - 7.8 mg, Sodium - 7.8 mg, Iron - .55 mg, Selenium - .46 mg, Zinc - .45 mg, Also contains small amounts of manganese and copper.	Vitamin C - 20 mg, Niacin - 2.18 mg, Pantothenic Acid - .9 mg, Vitamin B6 - .5 mg, Folate - 14 mcg, Contains some other vitamins in small amounts.
0.05:1	Mushroom / /1/2 cup	Potassium - 129.5 mg, Phosphorus - 36.4 mg, Magnesium - 3.5 mg, Selenium - 3 mg, Calcium - 1.8 mg, Sodium - 1.4 mg, Iron - .36 mg, Also contains small amounts of manganese, copper and zinc.	Vitamin D - 26.6 IU, Niacin - 1.4 mg, Vitamin C - .8 mg, Pantothenic Acid - .5 mg, Contains some other vitamins in small amounts.
0.02:1	Corn / One ear	Potassium - 191.7 mg, Phosphorus - 79.3 mg, Magnesium - 24.6 mg, Sodium - 13 mg, Calcium - 1.5 mg, selenium - .6 mg, Iron - .5 mg, Zinc - .4 mg, Also contains small amounts of manganese and copper.	Vitamin C - 4.8 mg, Vitamin A - 167 IU, Niacin - 1.2 mg, Folate - 27.3 mcg, Pantothenic Acid - .68 mg, Contains some other vitamins in small amounts.

FRUIT RATIOS: CA:PH (2:1 is Optimal)

Ca:Ph Ratio	Fruit / Portion	Minerals	Vitamins
4.80:1	Papaya / 1 cup	Calcium 33.6 mg, Iron 0.1 mg, Magnesium 14.0 mg, Phosphorus 7.0 mg, Potassium 360 mg, Sodium 4.2 mg, Zinc 0.1 mg, Copper 0.0 mg, Manganese 0.0 mg, Selenium 0.8 mcg.	Vitamin A 1531 IU, Vitamin C 86.5 mg, Vitamin E (Alpha Tocopherol) 1.0 mg, Niacin 0.5 mg, Pantothenic Acid 0.3 mg, Beta Cryptoxanthin 1065 mcg, Beta Carotene 386 mcg, Lutein+Zeaxanthin 105 mcg, Retinol Activity Equivalent 77.0 mcg, Folate 53.2 mcg, Food Folate 53.2 mcg, Dietary Folate Equivalents 53.2 mcg, Vitamin K 3.6 mcg.
2.89:1	Orange / one medium	Potassium - 237 mg, Calcium - 52 mg, Phosphorus - 18 mg, Magnesium - 13 mg, Selenium - .65 mg, Also contains trace amounts of iron, zinc, manganese and copper.	Vitamin A - 269 IU, Vitamin C - 70 mg, Folate - 40 mcg, Vitamin B1 (thiamine) - .1 mg, Pantothenic Acid - .33 mg
1.83:1	Lime / One	Potassium - 68 mg, Calcium - 22 mg, Phosphorus - 12 mg, Magnesium - 4 mg, Iron - .4 mg, Also contains trace amounts of selenium, zinc, manganese and copper.	Vitamin A - 6.7 IU, Vitamin C - 19 mg, Folate - 5.5 mcg
1.63:1	Lemon / One	Potassium - 80 mg, Calcium - 15mg, Phosphorus - 9.2 mg, Magnesium - 4.6 mg, Iron - .35 mg, Also contains trace amounts of selenium, zinc, manganese and copper.	Vitamin A - 2 IU, Vitamin C - 4 mg
1.63:1	Pineapple / 1 cup	Calcium 20.2 mg, Iron 0.4 mg, Magnesium 18.6 mg, Phosphorus 12.4 mg, Potassium 178 mg, Sodium 1.6 mg, Zinc 0.2 mg, Copper 0.2 mg, Manganese 1.8 mg, Selenium 0.2 mcg.	Vitamin A 86.8 IU, Vitamin C 56.1 mg, Vitamin K 1.1 mcg, Niacin 0.8 mg, Pantothenic Acid 0.3 mg, Vitamin B6 0.2 mg, Thiamin 0.1 mg, Beta Carotene 52.7 mcg, Folate 23.2 mcg, Food Folate 23.2 mcg, Dietary Folate Equivalents 23.2 mcg, Retinol Activity Equivalent 4.7 mcg.
1.53:1	Blackberries / 1 cup	Potassium - 282 mg, Calcium - 46 mg, Phosphorus - 30 mg, Magnesium - 28 mg, Manganese - 1.9 mg, Iron - .8 mg, Selenium - .9 mg, Zinc - .4 mg, Also contains a trace amount of copper.	Vitamin A - 237 IU, Vitamin C - 30 mg, Vitamin E - 1.5 IU, Folate - 49 mcg
1.44:1	Grapes / 1 cup	Potassium - 176 mg, Calcium - 13 mg, Phosphorus - 9 mg, Magnesium - 4.6 mg, Iron - .4 mg, Selenium - .3 mg, Also contains trace amounts of zinc, manganese and copper.	Vitamin A - 92 IU, Vitamin C - 3.7 mg, Folate - 3.6 mcg, Vitamin B6 - .1 mg

Ca:Ph Ratio	Fruit / Portion	Minerals	Vitamins
1.00:1	Apple / One medium	Potassium - 158 mg, Calcium - 9.5 mg, Phosphorus - 9.5 mg, Magnesium - 7 mg, Selenium - .4 mg, Also contains small amounts of iron, manganese, copper and zinc.	Vitamin A - 73 IU, Vitamin C - 9 mg, Folate - 4 mcg, Vitamin E - .66 IU
0.91:1	Mango / One without peel	Potassium - 323 mg, Calcium - 20.7 mg, Phosphorus - 22.8 mg, Magnesium - 18.6 mg, Iron - .26 mg, Also contains trace amounts of selenium, copper, zinc manganese.	Vitamin A - 8060 IU, Vitamin C - 57.34 mg, Folate - 29 mcg,Vitamin B2 - 0.12 mg, Niacin - 1.2 mg, Vitamin B6 - .28 mg, Vitamin E - 3.51 IU
0.88:1	Watermelon / I medium wedge (slice)	Potassium - 332 mg, Magnesium - 31.5 mg, Phosphorus - 26 mg, Calcium - 23 mg, Iron - .5 mg, Selenium - .3 mg, Also contains small amounts of manganese, copper and zinc.	Vitamin A - 1050 IU, Vitamin C - 27 mg, Niacin - .57 mg, Vitamin B1 - .23 mg, Vitamin B6 - .4 mg, Folate - 6.33 mcg
0.86:1	Raspberries / 1 cup	Calcium 30.7 mg, Iron 0.8 mg, Magnesium 27.1 mg, Phosphorus 35.7 mg, Potassium 186 mg, Sodium 1.2 mg, Zinc 0.5 mg, Copper 0.1 mg, Manganese 0.8 mg.	Vitamin A 40.6 IU, Vitamin C 32.2 mg, Gamma Tocopherol 1.7 mg, Delta Tocopherol 1.3 mg, Vitamin E (Alpha Tocopherol) 1.1 mg, Betaine 1.0 mg, Niacin 0.7 mg, Pantothenic Acid 0.4 mg, Beta Tocopherol 0.1 mg, Vitamin B6 0.1mg, Lutein+Zeaxanthin 167 mcg, Folate 25.8 mcg, Food Folate 25.8 mcg, Dietary Folate Equivalents 25.8 mcg, Alpha Carotene 19.7 mcg, Choline 15.1 mg, Beta Carotene 14.8 mcg, Vitamin K 9.6 mcg, Retinol Activity Equivalent 2.5 mcg.
0.82:1	Pears / 1 cup	Calcium 12.6 mg, Iron 0.2 mg, Magnesium 9.8 mg, Phosphorus 15.4 mg, Potassium 167 mg, Sodium 1.4 mg, Zinc 0.1 mg, Copper 0.1 mg, Manganese 0.1 mg, Selenium 0.1 mcg, Fluoride 3.1 mcg.	Vitamin A 32.2 IU, Vitamin E (Alpha Tocopherol) 0.2 mg, Niacin 0.2 mg, Pantothenic Acid 0.1 mg, Lutein+Zeaxanthin 63.0 mcg, Beta Carotene 18.2 mcg, Folate 9.8 mcg, Food Folate 9.8 mcg, Dietary Folate Equivalents 9.8 mcg, Vitamin K 6.3 mcg, Vitamin C 5.9 mg, Beta Cryptoxanthin 2.8 mcg, Retinol Activity Equivalent 1.4 mcg.
0.74:1	Strawberry / 1 cup	Calcium 24.3 mg; Iron 0.6 mg; Magnesium 19.8 mg; Phosphorus 36.5 mg; Potassium 233 mg; Sodium 1.5 mg; Zinc 0.2 mg; Copper 0.1 mg; Manganese 0.6 mg; Selenium 0.6 mcg; Fluoride 6.7 mcg.	Vitamin A 18.2 IU; Retinol Activity Equivalent 1.5 mcg; Beta Carotene 10.6 mcg; Lutein+Zeaxanthin 39.5 mcg; Vitamin C 89.4 mg; Vitamin E (Alpha Tocopherol) 0.4 mg; Gamma Tocopherol 0.1 mg; Vitamin K 3.3 mcg; Niacin 0.6 mg; Vitamin B6 0.1 mg; Dietary Folate Equivalents 36.5 mcg; Pantothenic Acid 0.2 mg; Choline 8.7 mg; Betaine 0.3 mg

Ca:Ph Ratio	Fruit / Portion	Minerals	Vitamins
0.65:1	Kiwi / 1 cup	Potassium - 588 mg, Phosphorus - 71 mg, Magnesium - 53 mg, Calcium - 46 mg, Selenium - 1.1 mg, Iron - .72 mg, Zinc - .3 mg, Copper - .3 mg	Vitamin A - 310 IU, Vitamin C - 174 mg, Folate - 67 mcg, Vitamin B2 - .09 mg, Niacin - .9 mg, Vitamin B6 - .16 mg, Vitamin E - 3 IU
0.63:1	Cantaloupe / One medium wedge (slice)	Potassium - 213 mg, Phosphorus - 12 mg, Calcium - 7.6 mg, Magnesium - 7.6 mg, Also contains trace amounts of iron, manganese, copper and zinc.	Vitamin A - 2225 IU, Vitamin C - 29 mg, Folate - 12 mcg, Niacin - .4 mg
0.62:1	Cherries (pitted) / 1 cup	Calcium 18.9 mg, Iron 0.5 mg, Magnesium 16.0 mg, Phosphorus 30.5 mg, Potassium 322 mg, Sodium 0.0 mg, Zinc 0.1 mg, Copper 0.1 mg, Manganese 0.1 mg, Fluoride 2.9 mcg.	Vitamin A 92.8 IU, Vitamin C 10.2 mg, Pantothenic Acid 0.3 mg, Niacin 0.2 mg, Vitamin E (Alpha Tocopherol) 0.1 mg, Gamma Tocopherol 0.1 mg, Vitamin B6 0.1 mg, Lutein+Zeaxanthin 123 mcg, Beta Carotene 55.1 mcg, Folate 5.8 mcg, Food Folate 5.8 mcg, Dietary Folate Equivalents 5.8 mcg, Retinol Activity Equivalent 4.4 mcg, Vitamin K 3.0 mcg.
0.60:1	Cantaloupe / 1 cup	Calcium 15.9 mg, Iron 0.4 mg, Magnesium 21.2 mg, Phosphorus 26.5 mg, Potassium 473 mg, Sodium 28.3 mg, Zinc 0.3 mg, Copper 0.1 mg, Manganese 0.1 mg, Selenium 0.7 mcg, Fluoride 1.8 mcg.	Vitamin A 5987 IU, Vitamin C 65.0 mg, Choline 13.5 mg, Niacin 1.3 mg, Gamma Tocopherol 0.2 mg, Pantothenic Acid 0.2 mg, Betaine 0.2 mg, Vitamin E (Alpha Tocopherol) 0.1 mg, Thiamin 0.1 mg, Vitamin B6 0.1 mg, Beta Carotene 3575 mcg, Retinol Activity Equivalent 299 mcg, Lutein+Zeaxanthin 46.0 mcg, Folate 37.2 mcg, Food Folate 37.2 mcg, Dietary Folate Equivalents 37.2 mcg, Alpha Carotene 28.3 mcg, Vitamin K 4.4 mcg, Beta Cryptoxanthin 1.8 mcg.
0.57:1	Apricots / 1 cup	Calcium 20.2 mg, Iron 0.6 mg, Magnesium 15.5 mg, Phosphorus 35.7 mg, Potassium 401 mg, Sodium 1.6 mg, Zinc 0.3 mg, Copper 0.1 mg, Manganese 0.1 mg, Selenium 0.2 mcg.	Vitamin A 2985 IU, Vitamin C 15.5 mg, Vitamin E (Alpha Tocopherol) 1.4 mg, Niacin 0.9 mg, Pantothenic Acid 0.4 mg, Riboflavin 0.1 mg, Vitamin B6 0.1 mg, Beta Carotene 1696 mcg, Beta Cryptoxanthin 161 mcg, Retinol Activity Equivalent 149 mcg, Lutein+Zeaxanthin 138 mcg, Alpha Carotene 29.4 mcg, Folate 13.9 mcg, Food Folate 13.9 mcg, Dietary Folate Equivalents 13.9 mcg, Vitamin K 5.1 mcg.
0.51:1	Tomato / One medium	Potassium - 396.7 mg, Phosphorus - 62.7 mg, Magnesium - 22.8 mg, Calcium - 31.9 mg, Sodium - 11.4 mg, Iron - .51 mg, Selenium - .8 mg, Also contains small amounts of manganese, copper and zinc.	Vitamin A - 2364 IU, Vitamin C - 25 mg, Folate - 46 mcg, Niacin - .94 mg, Vitamin B6 - .1 mg

Ca:Ph Ratio	Fruit / Portion	Minerals	Vitamins
0.50:1	Blueberries / 1 cup	Calcium 8.9 mg, Iron 0.4 mg, Magnesium 8.9 mg, Phosphorus 17.8 mg, Potassium 114 mg, Sodium 1.5 mg, Zinc 0.2 mg, Copper 0.1 mg, Manganese 0.5 mg, Selenium 0.1 mcg.	Vitamin A 79.9 IU, Choline 8.9 mg, Vitamin E (Alpha Tocopherol) 0.8 mg, Niacin 0.6 mg, Gamma Tocopherol 0.5 mg, Betaine 0.3 mg, Pantothenic Acid 0.2 mg, Thiamin 0.1 mg, Riboflavin 0.1 mg, Vitamin B6 0.1 mg, Lutein+Zeaxanthin 118 mcg, Beta Carotene 47.4 mcg, Vitamin K 28.6 mcg, Folate 8.9 mcg, Food Folate 8.9 mcg, Dietary Folate Equivalents 8.9 mcg, Retinol Activity Equivalent 4.4 mcg.
0.45:1	Guavas / 1 cup	Calcium 29.7 mg, Iron 0.4 mg, Magnesium 36.3 mg, Phosphorus 66.0 mg, Potassium 688 mg, Sodium 3.3 mg, Zinc 0.4 mg, Copper 0.4 mg, Manganese 0.2 mg, Selenium 1.0 mcg.	Vitamin A 1030 IU, Vitamin C 377 mg, Niacin 1.8 mg, Vitamin E (Alpha Tocopherol) 1.2 mg, Pantothenic Acid 0.7 mg, Vitamin B6 0.2 mg, Thiamin 0.1 mg, Riboflavin 0.1 mg, Lycopene 8586 mcg, Beta Carotene 617 mcg, Folate 80.8 mcg, Food Folate 80.8 mcg, Dietary Folate Equivalents 80.8 mcg, Retinol Activity Equivalent 51.2 mcg, Vitamin K 4.3 mcg.
0.38:1	Plums / 1 cup	Calcium 9.9 mg, Iron 0.3 mg, Magnesium 11.6 mg, Phosphorus 26.4 mg, Potassium 259 mg, Sodium 0.0 mg, Zinc 0.2 mg, Copper 0.1 mg, Manganese 0.1 mg, Selenium 0.0 mcg, Fluoride 3.3 mcg.	Vitamin C 15.7 mg, Niacin 0.7 mg, Vitamin E (Alpha Tocopherol) 0.4 mg, Pantothenic Acid 0.2 mg, Gamma Tocopherol 0.1 mg, Retinol Activity Equivalent 28.1 mcg, Beta Cryptoxanthin 57.8 mcg, Vitamin A 569 IU, Beta Carotene 314 mcg, Lutein+Zeaxanthin 120 mcg, Vitamin K 10.6 mcg, Folate 8.3 mcg, Food Folate 8.3 mcg, Dietary Folate Equivalents 8.3 mcg.
0.30:1	Peaches / 1 cup	Calcium 9.2 mg, Iron 0.4 mg, Magnesium 13.9 mg, Phosphorus 30.8 mg, Potassium 293 mg, Sodium 0.0 mg, Zinc 0.3 mg, Copper 0.1 mg, Manganese 0.1 mg, Selenium 0.2 mcg, Fluoride 6.2 mcg.	Vitamin A 502 IU, Vitamin C 10.2 mg, Choline 9.4 mg, Folate 6.2 mcg, Food Folate 6.2 mcg, Dietary Folate Equivalents 6.2 mcg, Vitamin K 4.0 mcg, Niacin 1.2 mg, Vitamin E (Alpha Tocopherol) 1.1 mg, Betaine 0.5 mg, Pantothenic Acid 0.2 mg, Beta Carotene 250 mcg, Lutein+Zeaxanthin 140 mcg, Beta Cryptoxanthin 103 mcg, Retinol Activity Equivalent 24.6 mcg.

Ca:Ph Ratio	Fruit / Portion	Minerals	Vitamins
0.27:1	Avocado / One medium	Potassium - 1204 mg, Phosphorus - 82.4 mg, Magnesium - 78.4 mg, Calcium - 22 mg, Sodium - 20 mg, Iron - 2 mg, Also contains small amounts of selenium, manganese, copper and zinc.	Vitamin A - 1230 IU, Vitamin C - 15.9 mg, Vitamin B1 (thiamine) - .2 mg, Vitamin B2 (riboflavin) - .25 mg, Niacin - 3.9 mg, Folate - 124.6 mg, Pantothenic Acid - 1.95 mg, Vitamin B6 - .56 mg, Contains some other vitamins in small amounts.
0.26:1	Banana / One medium	Potassium - 467 mg, Magnesium - 43 mg, Phosphorus - 27 mg, Calcium - 7 mg, Selenium - 1.3 mg, Iron - .4 mg, Also contains trace amounts of zinc, manganese and copper.	Vitamin A - 95 IU, Vitamin C - 11 mg, Folate - 22.5 mcg, Vitamin B6 - .7mcg, Niacin - .6 mg, Pantothenic Acid - .31 mg, Vitamin E - .67 IU
0.23:1	Nectarines / I cup	Calcium 8.6 mg, Iron 0.4 mg, Magnesium 12.9 mg, Phosphorus 37.2 mg, Potassium 287 mg, Zinc 0.2 mg, Copper 0.1 mg, Manganese 0.1 mg.	Vitamin A 475 IU, Retinol Activity Equivalent 24.3 mcg, Beta Carotene 215 mcg, Beta Cryptoxanthin 140 mcg, Lutein+Zeaxanthin 186 mcg, Vitamin C 7.7 mg, Vitamin C 7.7 mg, Vitamin E (Alpha Tocopherol) 1.1 mg, Vitamin K 3.1 mcg, Niacin 1.6 mg, Dietary Folate Equivalents 7.2 mcg, Pantothenic Acid 0.3 mg, Choline 8.9 mg, Betaine 0.3 mg.