COUNTING PROTEIN IN PKU

The Metabolic Dietitian will advise you on how much protein to count each day. There is protein in some, but not all foods. To count protein, you will need to use information from food labels and the food lists below.

Using protein lists

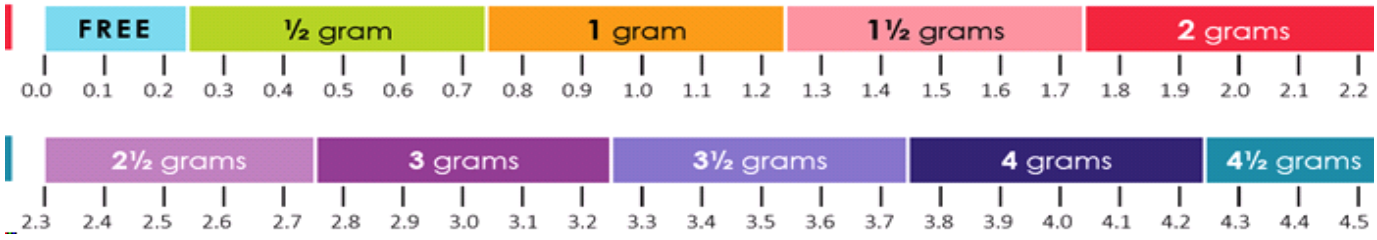
The food lists provided are for foods that do not come with a label e.g. potato. Use labels where possible on packaged foods to calculate protein content. It is useful to think of foods as having 3 different levels of protein per serve.

Green: **The 'go' foods**	These foods contain small quantities of protein and if used in normal volumes are usually allowed without restriction. These foods generally form the bulk of meals and snacks and are important for diet variety. Many fruits and vegetables are green foods. If eaten in large quantities some green foods can cause blood phenylalanine levels to rise and may need to be counted.
Orange: **The 'caution' foods**	These foods contain more than 1g protein per serve and need to be counted.
Red: **The 'stop' foods**	These foods contain large amounts of protein per serve and are not routinely recommended. You may be able to include small quantities if you have a high protein target or receiving BH4 therapy. Please discuss with your dietitian.

How count to protein

Round to the nearest ½ gram protein
Round any values you have calculated to the nearest half gram. For example, 2.3g protein is counted as 2.5g OR 1.2g protein is counted as 1g.

If you find this difficult use scale below:



If a food contains 0.3g protein or less per serve it does not need to be counted. It is considered a 'green' food. Any food containing 0.4g protein or per serve needs to be counted. Always check the serve size given on the package and compare to the amount you are eating.

Household measures and weighing foods

The Australian standard metric measures are:

1 teaspoon = 5mls
1 tablespoon = 20mls

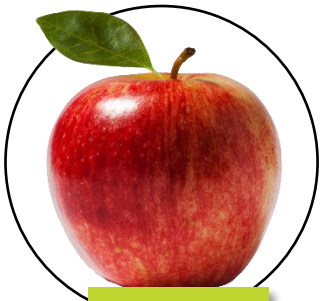
1 measuring cup = 250mls

PROTEIN UNCOUNTED FOODS

The ‘free’ foods

The following foods do not need to be counted in the PKU diet. Although these foods are classified as “protein free” they still contain small amounts of phenylalanine. If you eat large portions of any of these foods talk to your dietitian about whether this should be counted.

Protein free fruit



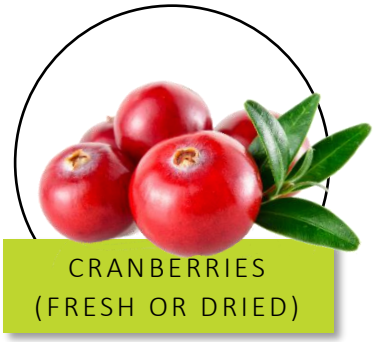
APPLE

APRICOT (FRESH ONLY)

BLACKBERRIES

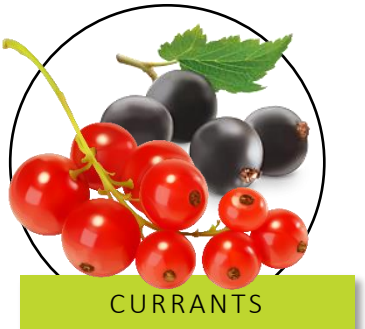
BLUEBERRIES

CHERRIES



CRANBERRIES (FRESH OR DRIED)

CUMQUAT



CURRANTS (FRESH OR DRIED)

CUSTARD APPLE

DATES

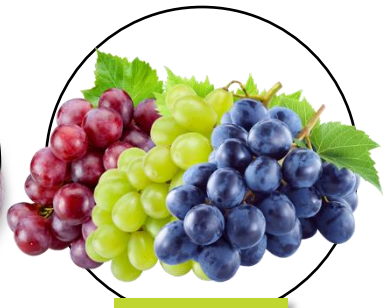
DRAGON FRUIT

FEIJOA

Protein free fruit continued

DURIAN

FIGS (FRESH ONLY)

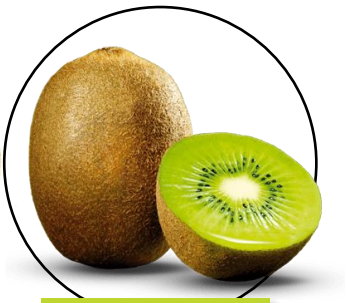


GRAPES

GRAPEFRUIT

GUAVA

HONEYDEW MELON



KIWI FRUIT

JACK FRUIT

LEMON & LIME

LONGAN

LOQUAT

LYCHEE

MANDARIN

MANGO

MANGOSTEEN

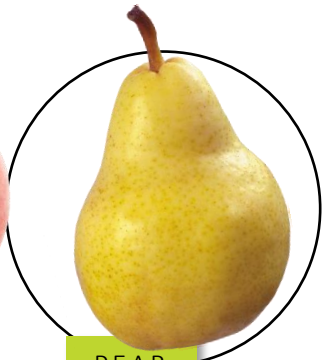
NECTARINE

Protein free fruit continued


ORANGE


PAWPAW (PAPAYA)


PEACH


PEAR


PERSIMMON


PINEAPPLE

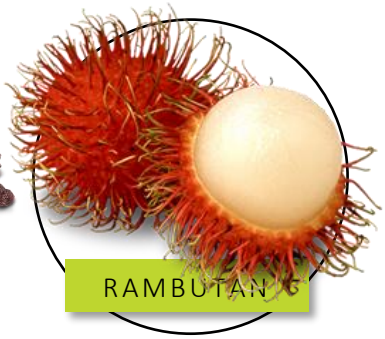

PLUM


PRICKLY PEAR


PRUNES


QUINCE


RAISINS


RAMBUTAN

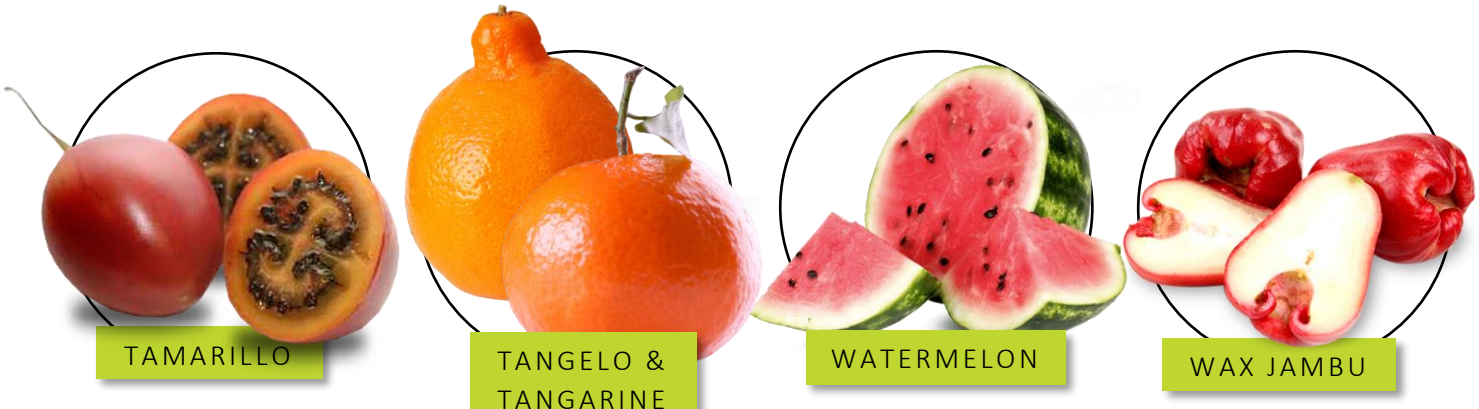

RASPBERRY


ROCKMELON


STAR FRUIT


STRAWBERRY

Protein free fruit continued



Protein free vegetables


ARTICHOKE


BAMBOO SHOOTS

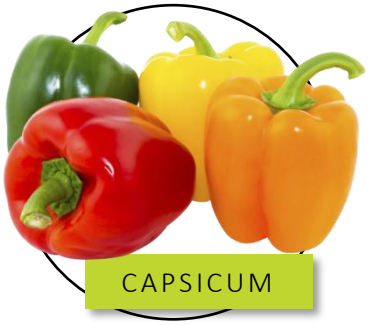

BEETROOT

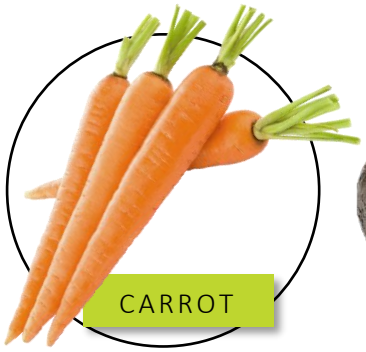

BITTER MELON


BOK CHOY


CABBAGE


CAPERS

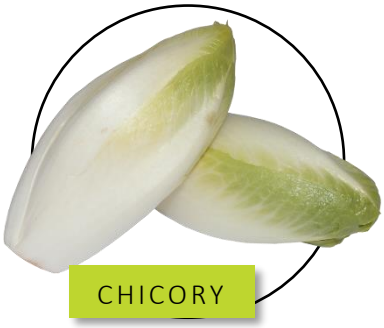

CAPSICUM


CARROT

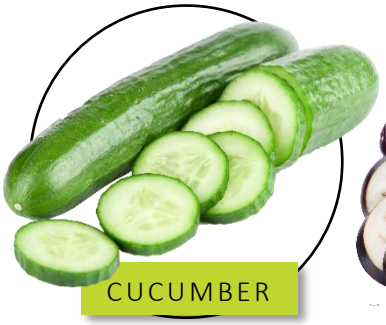

CASSAVA

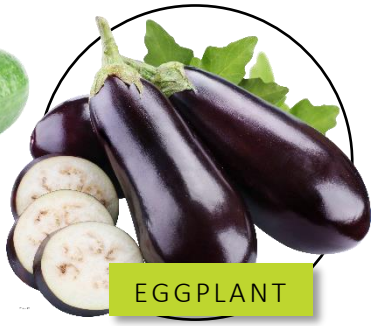

CELERIAC


CELERY


CHICORY


CHOKO


CUCUMBER


EGGPLANT


ENDIVE

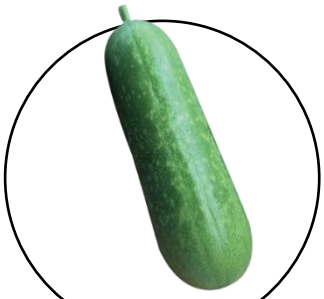

FENNEL


GHERKIN

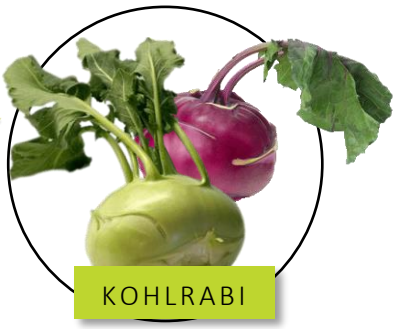

GARLIC & GINGER

Protein free vegetables continued

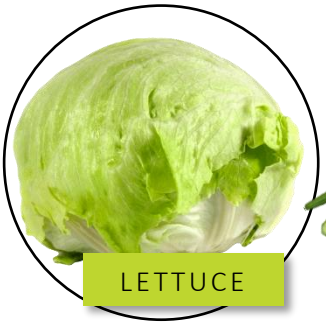

GREEN BEANS

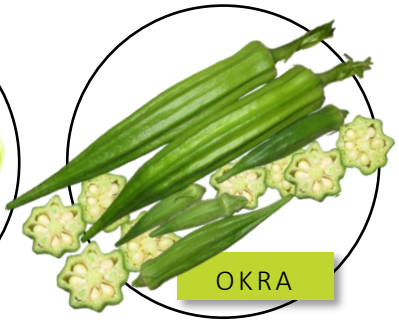

HAIRY MELON


HERBS & CHILLI

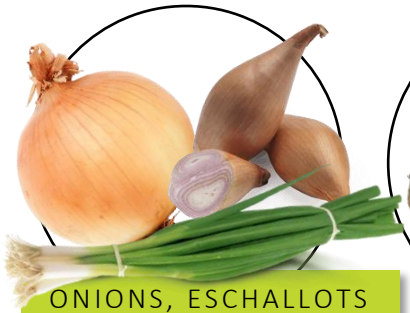

KOHLRABI


LEEKS

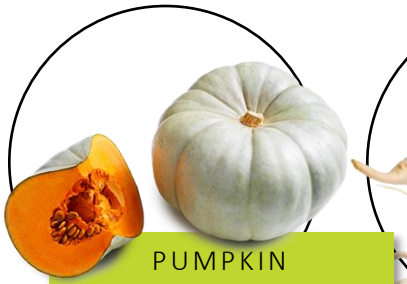

LETTUCE


OKRA


OLIVES

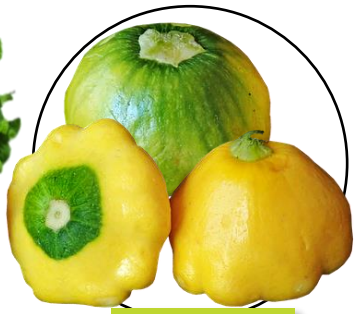

ONIONS, ESCHALLOTS & SPRING ONIONS

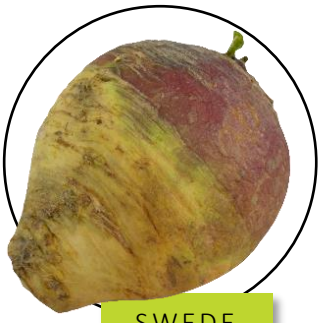

PARSNIP


PUMPKIN (JARRAHDALE ONLY)

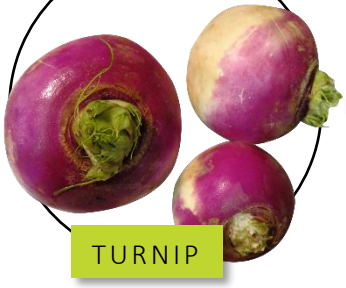

RADISH


RHUBARB


SQUASH


SWEDE


TOMATO


TURNIP


WATER CHESTNUT


WATERCRESS


ZUCCHINI

Flours, grains, breads, noodles and baking

Most standard flours, grains, pasta and foods made from them are quite high in protein need to be counted. The following can be used without counting. However, if you eat large portions of any of these foods talk to your dietitian about whether this should be counted.

These are just examples of brands, there are many other brands and types of products. Please discuss with your dietitian how to order.

LOW PROTEIN PURPOSE FLOUR

LOW PROTEIN BAKING MIX

LOW PROTEIN RICE

LOW PROTEIN PENNE PASTA

LOW PROTEIN LOOPS

PLATYPUS FLOUR MIX

LOW PROTEIN BREAD LOAF

LOW PROTEIN SPAGHETTI

LOW PROTEIN BISCUITS

LOW PROTEIN FRUIT BAR

LOW PROTEIN CRAKERS

LOW PROTEIN PIZZA BASE

Flours, grains, breads, noodles and baking continued

ARROWROOT FLOUR

BAKING POWDER &SODA

BEAN THREAD VERMICELLI

CORNFLOUR

CREAM OF TARTAR

CUSTARD POWDER

EGG REPLACER

ESSENCES

FOOD COLOURS

SAGO

TAPIOCA FLOUR

Seasonings, stocks, sauces and condiments

The following are low in protein and do not need to be counted in normal amounts. Please check all food labels before using products.

(No specific brands are recommended)

CURRY POWDER/PASTE

BARBEQUE SAUCE

DRESSINGS (SALAD)

French, Italian, Coleslaw, 1000 island

FRUIT CHUTNEY

GRAVY POWDER

MUSTARD

PASTA SAUCE

SALT & PEPPER

SPICES & HERBS

VEGETABLE STOCK

VINEGAR

WORCESTERSHIRE SAUCE

Fats and oils

The following contain very low amounts of protein.

(No specific brands are recommended)

COPHA

GHEE

MARGARINE

OIL & COOKING OIL

Milk substitute products

These milk substitutes' products can be used as a base with cereal, baking recipes, custards and puddings. Please check all food labels before using products.

COFFEEMATE

LOPROFIN MILK*

PRO ZERO*

SNO-PRO MILK*

**These products require a script from your doctor, please talk to your Dietitian if you would like to use them*

Drinks

Water is the best drink.

Juice, soft drinks and cordials can reduce appetite for food and can increase risk of dental decay. They are best kept to being a 'sometimes' drink.

Some fruit juices contain protein and need to be limited. It is better to drink water and eat fruit.

Diet drinks contain aspartame and should be avoided.

(No specific brands are recommended)

CORDIAL

FLAVOURED MINERAL WATER

FRUIT JUICE

STRAWBERRY NESQUIK

SIPPAH STRAWS

SOFT DRINK

TEA & COFFEE

Note about alcoholic drinks:
Alcoholic drinks only suitable after 18yrs, however can be used in cooking
Beer needs to be counted
All wine, port, sherry, spirits have little or no protein.
Pre-mixed drinks may contains artificial sweeteners aspartame (951) or acesulphame-aspartame (962) which contains phenylalanine. Ensure to check label.

Sugar, desserts and lollies

The following contain very little protein and maybe used as a 'sometimes' food.

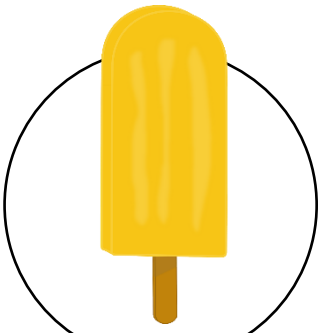
Sugar free lollies and chewing gum may contain aspartame (check the food label).

Please be aware that jelly thickened with vegetable gum (not gelatine) has very little protein. Check the ingredient list; the numbers 406, 407, 410, 412, 414, 415, 416 are vegetable gums. Ready-made jellies (stored in the refrigerator cabinet) are usually set with vegetable gum.

(No specific brands are recommended)

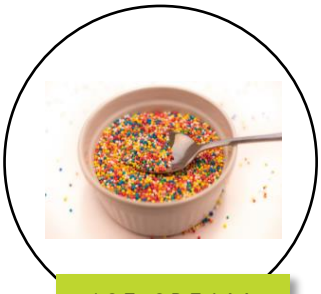
GOLDEN SYRUP

HONEY



ICE-BLOCK

Without cream or milk



ICE CREAM TOPPINGS

JAM

JELLY

See note above

READY-MADE JELLY

LOLLIES

Without cream or milk

LOW PROTEIN CHOCOLATE

Ask Dietitian about ordering

MAPLE SYRUP

MARMALADE

TREACLE

PROTEIN CONTAINING FOODS

The 'counted' foods

These lists give information on food that need to be counted but may not have food labels.
The weights listed for each of the foods in this sections are equivalent to one gram (1g) of protein.
Use food labels where ever possible to count protein, except for fruit and vegetables (see below).

Fruit & Vegetables

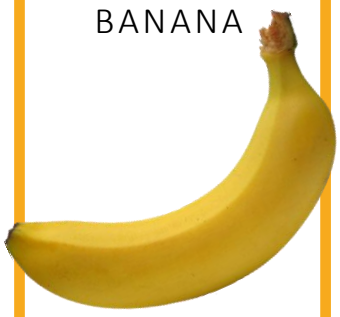
Fruits and vegetables are nutritious and low in protein, making them an important part of the PKU diet. These lists, which are based on phenylalanine content, should be used for counting fruit and vegetables. If a fruit/vegetable comes in packaging with a nutrition information panel (NIP) the following rules apply:

- If it contains only free (uncounted) fruit/vegetable e.g. canned tomatoes with basil, do not count these foods
- If the fruit/vegetable is combined with other foods which you would normally count e.g. with flour in a fruit bar use the value as per the packaging NIP.

Fresh fruit

Most fresh, frozen & canned fruits do not need to be counted on a low protein diet. Only a small number of fruits need to be counted if eaten in larger amounts. The weights for each fruit below are equivalent to one gram (1g) of protein.

BANANA



65g

MULBERRY

75g

PASSIONFRUIT PULP

40g

POMEGRANATE SEEDS

85g

Dried fruit

Dried fruits generally contain more phenylalanine than fresh, frozen or canned fruits. If you eat large amounts of any dried fruit not listed below talk to your metabolic dietitian as it may need to be counted.

APRICOTS

55g

FIGS

60g

GOJI BERRIES

20g

SULTANAS

85g

Please note that images pictured do not reflect the weights listed

Vegetables

The weights listed for each of the vegetables below is equivalent to **one gram** (1g) of protein.

ASPARAGUS

65g

AVOCADO

90g

BEAN SPROUTS (MUNG)

60g

BROCCOLI

30g

BROCCOLINI

30g

BRUSSELS SPROUTS

65g

CAULIFLOWER

70g

CORN KERNELS

35g

CORN ON COB

4cm

KALE

35g

MUSHROOMS

60g

PEAS

25g

Please note that images pictured do not reflect the weights listed

Vegetables continued

The weights listed for each of the vegetables below is equivalent to **one gram** (1g) of protein.

PUMPKIN
(EXCEPT JARRAHDALE)

65g

ROCKET

35g

SILVERBEET

45g

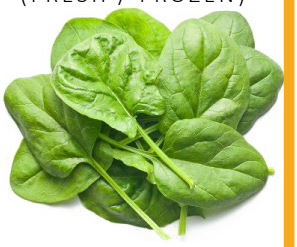
SNOW PEAS

55g

SPINACH
(BOILED / FROZEN)

45g

SPINACH
(FRESH / FROZEN)



45g

TARO

70g

YAM

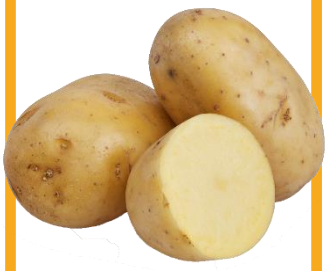
70g

Please note that images pictured do not reflect the weights listed

Potatoes

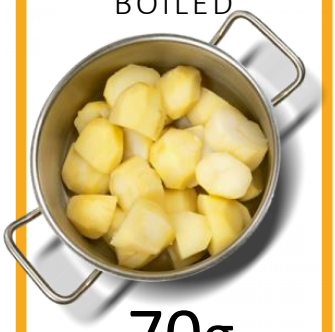
The phenylalanine content of potatoes depends on the cooking method. The weight of potato equivalent to **one gram** (1g) of protein is listed below.

RAW



50g

BOILED



70g

ROASTED

40g

CHIPS

40g

The weight of sweet potato equivalent to **one gram** (1g) of protein is listed below.

RAW

45g

BOILED

45g

ROASTED

45g

CHIPS

45g

Please note that images pictured do not reflect the weights listed

Examples

Now that you know the weight of various fruits and vegetables equal to 1g of protein you can use a calculator and kitchen scales to determine how much protein is in your portion size with this calculation:

Weight of fruit or vegetable	÷	Weight equal to 1g protein	=	Grams of protein

Example 1: Roasted Sweet Potatoes

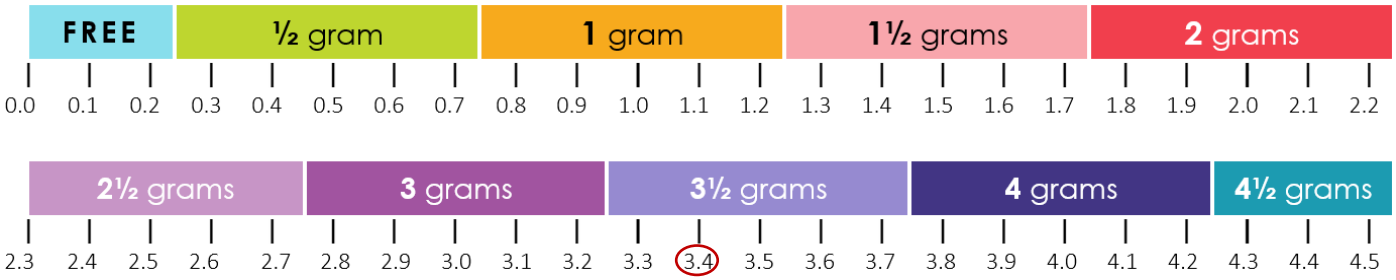
STEP 1: Place a plate or bowl on your kitchen scales and set them to zero (or TARE).

STEP 2: Place the amount of roasted sweet potatoes you intend to eat on the scales. In this case it is 157g.

STEP 3: Use the calculation:

Weight of vegetables (g)	÷	Weight equal to 1g protein	=	Grams of Protein
157		ROASTED  45g		3.4889

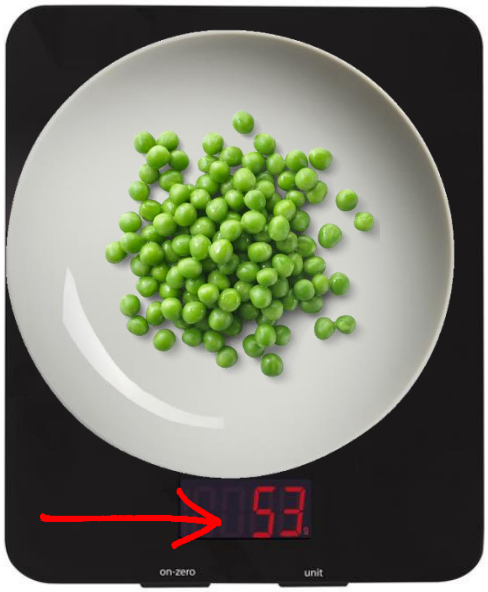
STEP 4: Round to the nearest half gram of protein. If you find this difficult use scale below (you only need to use the first number after the dot, ignore the others). In this example 157g roast sweet potatoes contains 3½ grams (3.5g) of protein.



Examples

Weight of fruit or vegetable	÷	Weight equal to 1g protein	=	Grams of protein

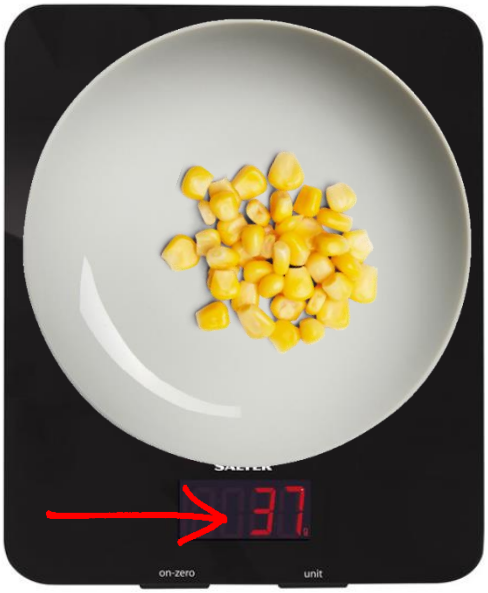
Example 2: Peas



Weight of vegetables (g)	÷	Weight equal to 1g protein	=
53	÷	PEAS  25g	=

In this example 53g of peas contains 2 grams (2g) of protein when rounded to the nearest half.

Example 3: Corn kernels



Weight of vegetables (g)	÷	Weight equal to 1g protein	=
37	÷	CORN KERNELS  35g	=

In this example 37g of corn kernels contains 1 gram (1g) of protein when rounded to the nearest half.

Bread, cakes & pastry

Low protein versions are better choices for most people with PKU. Remember, if your child becomes familiar with the taste of ordinarly bread or similar products, they may not eat the low protein varieties.

The weights listed for each of the food sources below is equivalent to one gram (1g) of protein.

Use the nutrition label on packaging where possible.

BREAD (LEBANESE)

12g

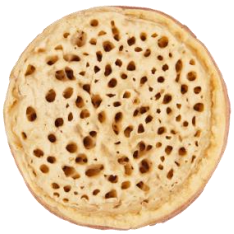
BREAD

10g

BREADCRUMBS

7g

CRUMPET



20g

PASTRY FILO (RAW)

10g

PASTRY SHORTCRUST (RAW)

18g

BARLEY PEARL (BOILED)

24g

BULGAR (BOILED)

19g

COCONUT (DESSICATED)

15g

COUSCOUS (BOILED)

16g

FLOUR (WHITE OR WHOLEMEAL)

9g

NOODLES (RICE STICK, BOILED)

40g

Please note that images pictured do not reflect the weights listed

Bread, cakes & pastry continued

The weights listed for each of the food sources below is equivalent to <u>one gram</u> (1g) of protein.

NOODLES
(HOKKIEN BOILED)

16g

PASTA
(RAW WHITE)

8g

PASTA
(BOILED)

19g

POLENTA
(BOILED)

38g

POPCORN

11g

RICE BROWN
(BOILED)

24g

RICE FLOUR
(RAW)

13g

RICE WHITE
(BOILED)

32g

RICE WHITE
(RAW)

14g

ROLLED OATS

8g

SEMOLINA
(BOILED)

9g

QUINOA
(BOILED)

28g

Please note that images pictured do not reflect the weights listed

Condiments & sauces

The weights listed for each of the condiments and sauces below is equivalent to **one gram** (1g) of protein *(no specific brands have been recommended except vegemite and marmite)*. Use the nutrition label on packaging where possible.

MARMITE

8g

MUSTARD

17g

SOY SAUCE

19g

VEGEMITE

4g

Cream

The weights listed for each of the creams below is equivalent to **one gram** (1g) of protein *(no specific brands have been recommended)*. Use the nutrition label on packaging where possible.

Reduced fat butter blends and cream are usually higher in protein compared to the full fat products.

BUTTER

91g

COCONUT CREAM

63g

CREAM (PURE, UHT or THICKENED)

50g

CREAM (REDUCED FAT)

33g

CREAM (DOUBLE THICK)

65g

IMITATION CREAM (NON-DIARY)

100g

SOUR CREAM

53g

SOUR CREAM (LIGHT)

28g

Please note that images pictured do not reflect the weights listed

Drinks

The weights listed for each of the drinks below is equivalent to **one gram** (1g) of protein. Please check the labels especially for the milk substitute drinks as most will vary in protein content.

These drinks need to be counted. Choose low protein alternatives.

ALMOND MILK

150ml

COCOA

5g

COCONUT MILK

100ml

MILK

(Regular fat)

29ml

MILO

8g

CHOCOLATE NESQUIK

22g

RICE MILK

330ml

Alcoholic drinks

The measurements listed for each of the alcoholic drinls below is equivalent to one gram (1g) of protein.

The legal drinking age in Australia and New Zealand is 18.

Pre-mixed drinks may contain artifical sweeteners aspartame (951) or acesulphame-aspartame (962) which contain phenylalanine. Check the label.

Milk, egg or cream-based drinks are generally high in protein – they are not labelled in the way foods are, so it is difficult to calculate how much protein they contain.

BEER
(LIGHT)

500ml

BEER
(REGULAR)

250ml

STOUT

150ml

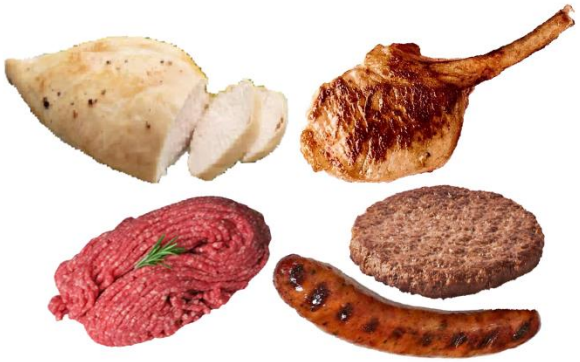
Please note that images pictured do not reflect the measurements listed

HIGH PROTEIN FOODS

The ‘STOP’ foods

Most people on a low protein diet will not be able to have these foods. Talk to your dietitian if would like to discuss further.

Fish and seafood



Meat

beef, lamb, pork, veal, kangaroo, chicken, other poultry, rabbit

Soy products

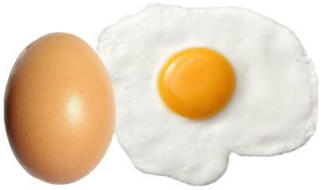
soy milk, tofu, soy custard, soy yoghurt

Legumes

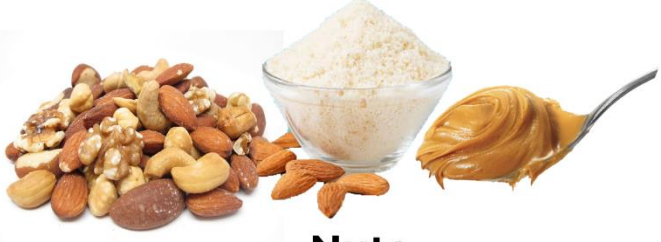
soy beans (edamame), chick peas, beans, lentils

Dairy

yoghurt, cheese, cows milk, custard



Egg



Nuts

whole nuts, nut butters, nut meals or flours e.g. almond meal

Counted foods

The weights listed for each of the foods below are equivalent to **one gram (1g)** of protein.

BAKED BEANS
(CANNED)

20g

CHICKPEAS
(CANNED, DRAINED)

14g

EGG
(WHOLE RAW)

8g

CHEESE
(CHEDDAR)

4g

BEEF
(RAW, ALL CUTS)

4g

CHICKEN
(RAW)

4g

FISH
(RAW)

5g

SAUSAGE
(BEEF RAW)

7g

MIXED NUTS

5g

PEANUT BUTTER

4g

CHOCOLATE
(MILK)

13g

LIQUORICE

20g

Please note that images pictured do not reflect the measurements listed