



# A guide to a low-FODMAP vegetarian or vegan diet

Meat and animal products are excellent sources of protein, calcium, iron, zinc, vitamin B12 and other B vitamins we need to stay healthy and prevent illness.

A vegetarian diet avoids meat, while a vegan diet avoids meat and all animal products. These plant-based diets can still be healthy and nutritious, and many studies show they may have health benefits greater than diets that do include meat.

However, if choosing to follow a vegetarian or vegan diet, you must choose foods carefully to ensure you meet your nutrition needs. If you are embarking on a low-FODMAP diet too, getting adequate nutrition can become a challenge. Many vegan and vegetarian protein options contain FODMAPs.

A low-FODMAP diet can put you at risk of low-energy, low carbohydrate (B vitamins and fibre) and low calcium intake. Thus, careful planning needs to be undertaken to ensure your low-FODMAP vegetarian or vegan diet provides all the nutrition you need. You can do this by paying particular attention to several at-risk nutrients.

## **Protein**

Protein plays a key role in building and repairing our muscles, keeping us full and helping us to maintain a healthy weight. You should aim to include a source of protein at all main meals, and at least one snack.

*Animal-based sources:* Lactose-free (Lf) dairy, eggs.

*Plant-based sources:* Soy products (milk from soy protein, yoghurt, firm tofu, tempeh), nuts and seeds (walnuts, brazil nuts, pecans, macadamias, chia, flax), quorn, tinned legumes, wholegrains (breads, cereals, pasta), vegan low-FODMAP protein powder.



## Calcium

Calcium is essential for strong bones and teeth, blood clotting and nerve and muscle function. Getting enough calcium may be particularly problematic for vegans. It is a great idea to include lactose-free dairy, or a calcium fortified soy products daily, as other plant-based sources contain very small amounts of calcium.

*Animal-based sources:* Lf dairy.

*Plant-based sources:* Fortified soy products (milk from soy protein only, yoghurt, tofu set in calcium salts, tempeh, soy cheese), almonds, brazil nuts, tahini, broccoli and leafy greens.

**Note:** You can use other alternative milks (e.g. almond) but they are lower in protein. Check the label to ensure they contain at least 120mg/100ml of calcium. Watch out for inulin/chicory root on labels.

## Iron

We need iron to carry oxygen in the blood and to give us energy! Low iron can result in iron-deficiency anaemia, causing fatigue and loss of appetite. There are 2 types of iron: haem iron (from animal products) and non-haem iron (plant products). Non-haem iron is not as well absorbed, so including plenty of iron-rich plant foods is key.

Vitamin C in fruit and vegetables helps to improve absorption of iron from plant-based foods, so include a range of colourful vegetables and/or fruit at each meal.

Phytates in wholegrains, legumes and soy beans can reduce absorption of iron, so it is important to get iron from a range of sources. Additionally, substances in tea and coffee can decrease non-haem iron absorption so drink these beverages between meals.

*Animal-based sources:* Eggs

*Plant-based sources:* Tinned legumes, tofu, dark green leafy vegetables, nuts and seeds (flax, chia, pumpkin), wholegrains (breads, pasta), iron-fortified low-FODMAP cereals (e.g. Gf Weet-Bix).



## Vitamin B12

B12 is key for blood cell formation and functioning of your nervous system. B12 is only found in animal products so deficiency is a concern. Vegans should use a B12 supplement and include B12 fortified foods. Additionally, it might be a good idea to get routine blood tests to check on B12.

*Animal-based sources:* Lf dairy, eggs.

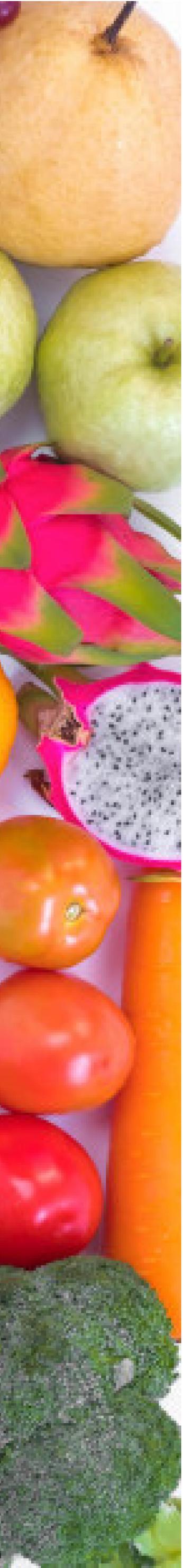
*Plant based sources:* Fortified soy milks (e.g. So Good), fortified vegetarian burgers/sausages.

## Zinc

Zinc is important for growth and repair of body cells, wound healing and functioning of the immune system (stops us getting sick!). Like with iron, phytates in wholegrains, legumes and soy beans can reduce absorption of zinc. So, it is important to get zinc from a variety of foods and avoid excessive intake of unprocessed wheat bran.

*Animal-based sources:* Lf dairy, eggs.

*Plant-based sources:* Tinned legumes, tofu and tempeh, nuts and seeds, brown rice and wholegrains (breads, cereals), sprouted legumes (mung beans, chickpeas, lentils), miso.



## Putting it all together

With careful meal planning, you can eat a healthy and nourishing vegetarian or vegan low-FODMAP diet. Always be mindful of the appropriate low-FODMAP portion size.

### Ensure a varied diet with daily inclusion of:

#### 1. Lactose-free dairy and/or calcium fortified alternative products:

- Lactose free milk (1 cup)
- Regular hard or soy cheese (2 slices)
- Soy milk (soy protein only, So Good is B12 fortified) (1 cup)
- Tofu (2/3 cup)
- Tempeh (1 large slice)
- Lactose-free yoghurt (1 tub)

#### 2. Eggs (if including).

**3. A range of low-FODMAP fruit and vegetables** including leafy greens and Vitamin C rich foods at meals (e.g. capsicum, tomatoes, strawberries).

#### 4. Nuts and seeds

- Brazil nuts (10)
- Almonds (10)
- Walnuts (10 halves)
- Pecans (10 halves)
- Macadamias (20)
- Chia or flaxseeds (1 Tbsp.)
- Peanut butter (1-2 Tbsp.)
- Tahini (1 Tbsp.)

#### 5. Whole grains

- Brown rice (1 cup)
- Quinoa (esp. high in protein!)
- Gluten-free pasta (1 cup)
- Soba noodles (1/3 cup)
- Grainy gluten-free bread e.g. Alpine, Bakers' Delight Lo-Fo (2 slices) - Oats (1/2 cup raw)



## 6. Low-FODMAP portions of tinned legumes

- Tinned lentils (1/2 cup)
- Canned chickpeas (1/4 cup)
- Canned black beans (1/4 cup)
- Butter beans (1/4 cup)
- Boiled red/green lentils (1/4 cup)
- Lima beans (1/4 cup)
- Mung beans (1/4 cup)

## 7. Vegetables

If you're vegetarian or vegan you probably love vegetables, and eat a lot of them. Make sure to check the MONASH FODMAP app for appropriate portion size.

### **Build a healthy low-FODMAP vegetarian/vegan meal:**

Protein (legumes, eggs dairy/soy products, nuts etc.)

+

Colourful Vegetables (zucchini, pumpkin etc.)

+

Leafy greens (spinach, kale, lettuce etc.)

+

Wholegrains (rice, quinoa, gf pasta etc.)

+

Healthy Fats (nuts, cheese, olive oil etc.)

### **For example:**

- Tofu + capsicum, jap pumpkin + baby spinach + brown rice + 1 Tbsp. pepitas.
- Poached eggs + cherry tomatoes, Jap pumpkin + sautéed spinach + Baker's Delight low-FO bread + extra-virgin olive oil.
- Lentils + tinned tomatoes + grated carrots, zucchini + chopped kale + gf pasta + hard/soy cheese.