

Low Fermentable Carbohydrate Diet

Also known as the Low-FODMAP Diet

HOW CAN THIS DIET HELP?

This diet is recommended for people who regularly experience gas, belching, bloating, abdominal cramping or pain, and diarrhoea and/or constipation. Certain carbohydrates (sugars) that are poorly absorbed draw water into the bowel and are rapidly fermented by gut bacteria, producing excess gas and causing these symptoms. Most people see improvement within a few days to weeks; around 3 in 4 people benefit. ^[1,2,3]

FODMAP STANDS FOR:

Fermentable Oligosaccharides, Disaccharides, Monosaccharides, and Polyols. These are types of fermentable sugars found in certain foods.

WHICH CARBOHYDRATES ARE FERMENTABLE?

- **Fructose (fruit sugar):** found in fruit, vegetables, and honey; also added to many foods as glucose-fructose (high fructose corn syrup). Foods with excess fructose over glucose are most likely to cause symptoms.^[5]
- **Lactose:** the natural sugar in milk and dairy (see the Lactose Intolerance fact sheet).
- **Fructans:** chains of fructose found in wheat-based foods and some vegetables. Cannot be broken down at all. Listed on labels as inulin or fructo-oligosaccharides.^[5]
- **Galactans:** found in legumes and some vegetables. Also not absorbed.
- **Polyols (sugar alcohols):** found in some fruits (apples, pears, stone fruits, avocados, dried fruits) and vegetables (mushrooms, sweet corn), and in sugar-free products (names ending in "-ol": sorbitol, mannitol, xylitol, maltitol).^[4,5]

FOODS TO EAT AND FOODS TO AVOID

The following list is based on Monash University FODMAP research.^[4]

FOOD GROUP	FOODS TO EAT	FOODS TO AVOID
Protein	Beef, chicken, lamb, pork, turkey, fish, shellfish, eggs Firm tofu, silken tofu Nuts (10-15/day): almonds, macadamia, peanuts, pecans, pine nuts, walnuts Seeds: chia, flax, hemp, pumpkin, sesame, sunflower Nut butters: peanut, almond (1.5-2 tbsp/day) Chickpeas and hummus (small servings)	Foods with fruit-based sauces or crumbed coatings Kidney beans, black beans, baked beans, navy beans, lentils, soybeans Pistachios, cashews
Dairy (if lactose intolerant)	Plant milks: almond, coconut, hemp, rice, or oat Hard cheeses: blue, brie, cheddar, cream cheese, dry curd cottage cheese, feta, gouda, mozzarella, parmesan, swiss Lactose-free milk, yogurt, kefir, ice cream, sour cream	Regular cow's milk, goat's milk, buttermilk, evaporated or chocolate milk Regular yogurt and yogurt drinks Ricotta, mascarpone, regular cottage cheese All creams (more than 1 tbsp) Cheese sauce Soups with milk or cream Condensed milk

FOOD GROUP	FOODS TO EAT	FOODS TO AVOID
Grains (1/2 cup cooked; 1 slice bread; 6-8 serves/day)	Wheat-free grains: amaranth, buckwheat, corn, millet, quinoa, rice, sorghum, tapioca Gluten-free breads, pasta, cereals, crackers Cereals: corn flakes, rice bubbles, Cheerios, cream of rice, oats, oat bran Corn tortillas, rice pasta, polenta (1/2 cup) Spelt bread and pasta	Wheat-based products: bread, pasta, cereal, couscous, cakes, biscuits, crackers Wheat flours (durum, semolina, cake flour, white flour) Barley and rye Chicory root (inulin)
Fruit (1/2 cup or 1 piece; 1-2 serves/day) Fresh or frozen is better than canned	Banana, blueberries, cantaloupe, clementine, cranberries, grapefruit (1/2), grapes, honeydew, kiwi, lemon, lime, mandarin, orange, papaya, pineapple, raspberries, rhubarb, strawberries, tangelo	Apple, apricot*, avocado*, blackberries*, cherries*, dried fruit (dates, figs, prunes*, raisins), lychee*, mango, nectarine*, peach*, pear* (and pear juice), plum*, watermelon* * Contain polyols (sugar alcohols)
Vegetables (1/2 cup; 2 cups leafy greens; 1-3 serves/day) Cooked better than raw	Bean sprouts, bok choy, capsicum, carrots, celery (1/2 stalk), chives, cucumber, eggplant, fennel bulb (1/2 cup), ginger, green beans, kale, lettuce, okra, parsnip, pumpkin, radish, scallion/spring onion (green part only), snow peas (5 only), tomato, turnip, white and sweet potato, yam, zucchini	Artichoke, asparagus, beetroot, broccoli, Brussels sprouts, cabbage, cauliflower, garlic and garlic powder, leek, mushrooms*, onion (all types and onion powder), radicchio, shallots, spring onion (white part), sweet corn*, tomato paste* * Contain polyols
Desserts	Dark chocolate (up to 30 g) Custards or puddings made with lactose-free milk Sorbet from allowed fruits	Custards or puddings made with regular milk Ice cream, lollies, or biscuits sweetened with fructose
Sweeteners	Aspartame, sucralose, stevia, acesulfame K, cyclamate Table sugar (sucrose), corn syrup, glucose Pure maple syrup (up to 1.5 tbsp/day)	Agave syrup, honey, glucose-fructose (high fructose corn syrup) Mannitol, maltitol, molasses, sorbitol, xylitol
Beverages	Coffee, black/green/white/peppermint tea (1 cup/day) Sucrose-sweetened soft drinks (up to 355 ml/day) Vodka or gin (up to 45 ml/day) Dry wine (up to 150 ml/day)	Chamomile, dandelion, fennel, or oolong tea; strong chai; fruit-based teas with chicory Chicory-based coffee substitutes Coconut water Glucose-fructose sweetened drinks Beer, cider, rum, sweet wines

TIPS FOR FOLLOWING THE DIET

- Follow the diet for at least 2-3 weeks to see whether it helps your symptoms. Work with an Accredited Practising Dietitian for best results.^[3]
- Keep a food and symptom diary to identify your personal trigger foods.
- Read food labels. Avoid: fructose, glucose-fructose, fruit sugar, inulin, fructo-oligosaccharides, honey, wheat, and rye.
- Buy gluten-free breads and pasta; these are wheat-free. You do not need to follow a 100% gluten-free diet; it is the fructans (a carbohydrate) in wheat, not the gluten (a protein), that triggers symptoms.
- Limit even allowed foods to one serving per meal and 1-2 fruit servings per day. This slows fermentation and reduces symptoms.
- Avoid sugar-free products with names ending in "-ol": sorbitol, mannitol, xylitol, maltitol.
- Ask your pharmacist about liquid medications; sorbitol is a common ingredient.

SUGGESTED MEAL IDEAS

Breakfast

- Corn flakes or oats with lactose-free milk or almond milk and banana or blueberries
- Smoothie with lactose-free yogurt, lactose-free milk, and strawberries
- Omelette with spinach, capsicum, and cheddar
- Gluten-free toast with peanut butter
- Gluten-free waffles with blueberries and maple syrup

Lunch

- Corn or rice pasta with chicken, tomatoes, capsicum, and herbs
- Gluten-free sandwich with canned salmon or sliced turkey, lettuce, tomato, and mayonnaise
- Green salad with olive oil, lemon dressing, and canned tuna
- Corn tortilla wrap with chicken, lettuce, tomato, olives, and feta

Dinner

- Beef stew with carrots, potato, and celery
- Baked fish with quinoa and carrots
- Stir-fry chicken with bok choy, bean sprouts, and carrots served over brown rice
- Gluten-free pizza with cherry tomatoes, basil, ham, pineapple, and mozzarella

Snacks

- Rice crackers with cheddar or peanut butter
- 1/2 cup pineapple or honeydew, or a small orange
- Small banana with 1 tablespoon peanut butter
- Popcorn

AUSTRALIAN RESOURCES AND SUPPORT

- **Monash University FODMAP Research Group:** www.monashfodmap.com - World-leading FODMAP research from Monash University, Melbourne. Free app and certified food list available.
- **Dietitians Australia:** www.dietitiansaustralia.org.au - Find an Accredited Practising Dietitian experienced with the FODMAP diet
- **Irritable Bowel Information and Support Association (IBIS Australia):** www.ibisaustralia.org.au - Support and information for people with IBS
- **Baker Heart and Diabetes Institute:** www.baker.edu.au - Gut health and metabolic research resources

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4. Monash University. (2024). The low FODMAP diet. <https://www.monashfodmap.com>

5. Muir JG, et al. (2009). Measurement of short-chain carbohydrates in common Australian vegetables and fruits. *Journal of Agricultural and Food Chemistry*, 57(2), 554-565.