Nourish Your GUT, **Feed Your BRAIN**

With Australian berries



Be berry well.

What you eat impacts gut health as well as mood, brain function and brain health.

A healthy brain and gut can help us to live our berry best lives.

Brain & Gut 101



A HEALTHY BRAIN regulates our emotions, moods, behaviours and senses¹, supporting mental performance, and memory helping us to live well now and as we age².



A HEALTHY GUT means regular bowel movements, gut symptoms that don't interrupt your quality of life, and the microbes that live in your gut are in balance3.



THE GUT-BRAIN AXIS is the two-way communication between your brain and your gut⁴ with each influencing the other's functions^{4,5}.

Berries feed the brain.

Studies show that eating more berries can:



Improve memory, learning, attention⁶⁻⁸, & executive function – the mental processes that help us to plan, focus, remember and juggle tasks^{6,9}.

Improve the flow of oxygen & energy to the brain⁶ and transport information between brain cells^{6,9}.

Improve neuroplasticity - the forming of new connections in the brain to help us learn, grow, and form memories⁶

Reduce cognitive fatigue¹⁰ and slow cognitive decline¹¹.



What's in berries that packs a POWERFUL PUNCH?

Berries are jam-packed full of health promoting nutrients including fibre. The power of berries also comes from bioactive polyphenols.



MICRONUTRIENTS

Vitamin C, Vitamin E, Folate, Magnesium & Manganese - in different levels across each berry type.

POLYPHENOLS



- colours, flavours, and aromas³.

 Bioactives health promoting compounds¹².
- Act like prebiotics in the gut help the 'good' bacteria to flourish¹³.

FIBRE



Contain insoluble and soluble fibres these promote gut health and feed the 'good' gut bacteria that produce compounds to nourish the brain³.

IMPROVE BRAIN HEALTH











IMPROVE GUT HEALTH





How berry polyphenols improve brain health

DIRECTLY

- Improve blood flow to the brain⁶.
- Increase synthesis of brain & nerve cells⁶.
- Regulate glucose levels the main energy source for the brain6.
- Protect the brain through antioxidant actions¹⁴.

INDIRECTLY BY NOURISHING THE GUT

90-95% of berry polyphenols reach the large intestine where they interact with the gut microbiota^{3,15}:

- inhibiting the growth of 'bad' bacteria^{8,16}
- supporting the growth of 'good' bacteria that produce compounds that support brain health^{8,16}.

of polyphenols – so choosing a variety of berries ensures you get a range of polyphenols & benefits.

How berries improve gut health **BERRIES CONTAIN:** Insoluble fibres - help transport nutrients and polyphenols to support the 'good' gut microbes3. Soluble fermentable fibres - feed the 'good' gut bacteria'. Pectins - particular soluble fibres that stimulate the growth of health promoting bacteria and their production of anti-inflammatory & anti-oxidant compounds17. Polyphenols - help the 'good bacteria' to grow. BERRY FIBRE FACTS (1 CUP)18,19 **Blackberries** Raspberries Blueberries **Strawberries** GRAMS 3

Berrylicious...

Berries are good for brain and gut health and they also make other gut and brain-healthy foods like wholegrains and fish tasty!

Try these culinary and practical tips to eat berry well...



WHOLEGRAIN **PANCAKES OR** TOAST



MAKE ICE **CUBES**

0

TOTAL FIBRE



WITH MEAT, FISH & CHICKEN



TOTAL INSOLUBLE

BERRIES AND LEMON JUICE IN СОМРОТЕ



MIXED BERRY & CHIA SEED PUREE

TOTAL SOLUBLE



IN DRESSINGS

Take home message: Berries NOURISH THE GUT and

FEED THE BRAIN in a sweet, delicious way!

To maximise the power of berry polyphenols, nutrients, and fibres, eat a mix of blackberries, blueberries, raspberries, and strawberries to nourish the gut and feed the brain.



References:

1. National Institute on Aging. Cognitive health and older adults, https://www.nia.nih.gov/health/cognitive-health-and-older-adults (2023). 2. World Health Organisation. Brain health, https://www.who.int/health-topics/brain-health#tab=tab_1 (2023). 3. Komarnytsky (2023). https://doi.org:10.1007/s13668-023-00449-0. 4. Mayer (2011). https://doi.org:10.1007/s13668-023-00449-0. 4. Mayer (2011). https://doi.org:10.1038/nrn3071. 5. Cryan (2012). https://doi.org:10.1038/nrn3071. 6. Bonyadi (2022). https://doi.org:10.1038/nrn3071. 6. Bonyadi (2022). https://doi.org:10.1016/j.jbbi.2019.04.001. 9. Bell (2021). https://doi.org:10.1016/j.jbbi.2019.04.001. 9. Bell (2021). https://doi.org:10.1080/99637486.2020.1852192. D. Whyte 6. Howard (2021). https://doi.org:10.3390/null112685. 11. Devore (2012). https://doi.org:10.1002/ana.23594. 12. Zhang (2023). https://doi.org:10.1002/ana.23594. 12. Zhang (2023). https://doi.org:https://doi.org/10.1016/j.phrs.2023.106787. 13. Drljača (2023). https://doi.org.https://doi.org/10.1016/j.phrs.2023.106787. 13. Drljača (2023). https://doi.org.https://doi.org/10.1011/cns.14076. 14. Subash (2014). https://doi.org:10.4103/1673-5374.139483. 15. Lavefve (2020). https://doi.org.10.1039/C9F001634A. 16. Flanagan (2018). https://doi.org.10.1007/s13668-018-0226-1. 17. Pascale (2022). https://doi.org.10.3390/nul4173629. 18. Cosme (2022). https://doi.org:10.3390/foods11050644. 19. Foodworks online.



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