



MATERNAL HEALTH

The importance of nutrition for
all stages of maternal health.

Tirlán

Tirlán is an ingredient solutions partner to some of the world's leading companies and brands. At the forefront of ingredient technology, we offer a range of solutions to match the ever-changing demands of the food and nutrition industry and its consumers.

With quality dairy and grains sourced from 5,000 Irish family farms, combined with advanced market research and insights, our unique platform offers fully traceable and sustainably produced natural solutions to help our customers stay ahead of the curve.

www.tirlaningredients.com



The role of nutrition in early life from conception, through pregnancy, and up to 2 years old is recognised as a vital time in which nutrition can influence foetal development and infant's health in later life.

Nutrition plays a vital role during and after pregnancy to support the health of mother and baby.

The developing foetus is completely dependent on the mother's nutrient supply for growth. Both energy and nutrient requirements increase during pregnancy to support the growth and development of the baby.

The first 1000 days of life, from conception through to the 2nd birthday, has been proven to be a critical time when nutrition plays a key role in programming long term health.

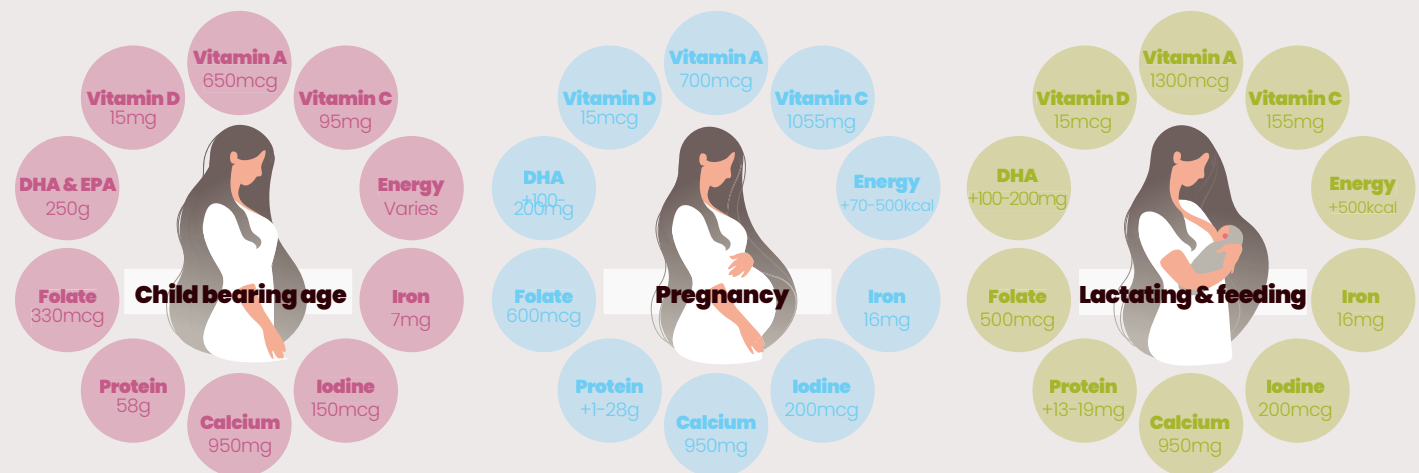
Pregnancy creates unique dietary challenges fundamental to the care of both mother and baby.

A healthy diet before and during pregnancy is essential providing the building blocks to support the health of the mother and the development of the baby. A poor diet can affect the baby's health from the start.

While all women require increased calories during pregnancy, recommended weight gain differs depending on pre-pregnancy weight status. Inadequate maternal weight gain potentially harms the health of both mother and child since there may not be enough calories to support proper development in the womb. Obesity and excess weight gain increase the risk of stillbirth, gestational diabetes, pre-term birth, caesarean section, a large baby, and childhood obesity.¹

Vitamin and mineral requirements also increase during pregnancy and breastfeeding. These increased requirements should be met through nutrient rich foods such as whole grains, fruit and vegetables and dairy foods.

Daily nutrient needs by life stage



NOTE: EFSA Dietary Reference Values Protein based on 70kg women (0.83g/ kg bodyweight)

The importance of proper nutrition does not stop once the baby is born.

The World Health Organisation recommends exclusive breastfeeding for the first 6 months of life, and continued breastfeeding afterwards alongside appropriate complementary feeding. During this time of breastfeeding nutrient requirements increase for the mother.

Breastfed infants are completely dependent on their mother for nutrition during the first 6 months of life and even with the introduction of complementary feeding; breast milk continues to play an important role in infant nutrition after 6 months.

For the mother, this means the required intake for many nutrients increases and it is therefore critical that lactating women have a healthy balanced diet, including a variety of nutrient-rich foods to ensure both she and baby remain healthy.

An inadequate diet during breastfeeding puts the mothers at risk of depleting her body stores.



The nutrients found in breast milk may vary depending on the mother's diet and the stores of nutrients in the body.²

Examples of this include vitamins A, B1, B2, B6, B12, D, Iodine and Choline. Iodine and Choline are important for infant cognitive development. An optimum diet is essential to ensure optimal levels of vitamins and minerals in breast milk.

Complimentary feeding practices

After the first 6 months, complementary feeding practices are required to support the health of the young child and provide long-term health benefits.

Adequate calories can help manage weight gain during the first years of life while also lowering the risk of childhood obesity from overfeeding. Choosing foods rich in Vitamin A and iron will help support proper development of the child's vision, immune system, and physical growth.

In developing countries, WHO, UNICEF, and others also recommend supplementation or fortification with multiple micronutrient powders and individual nutrients to reduce infant and child mortality and improve growth and development.



The challenges faced during pregnancy

Women encounter many more challenges beyond their increased nutritional needs during pregnancy and lactation.

This time can be the most stressful and hectic of their lives. It may not always be realistic to plan, shop and prepare meals from scratch. Snacks and pre-prepared foods, fortified with the right nutrients may become increasingly important to these women.

Tailored food solutions rich in nutrients specific to pregnant and lactating mothers will help support maternal health. Nutrients that are commonly under consumed by pregnant and breastfeeding women include calcium, iron, folate and vitamin D. Foods tailored for pregnant and breastfeeding women should emphasize these nutrients. It is important to remember, though, that both of these life stages have increased nutrient needs compared to women of childbearing age, so all foods targeted toward pregnant or lactating women should be rich in vitamins and minerals.

Calcium, phosphorus, protein Normal growth development of bone

Calcium, Vitamin B12, Zinc Cell division and specialisation



Vitamin B2, Vitamin B12 Functioning of the nervous system and red blood cells

Iodine Normal growth and cognitive development

Vitamin B5 Synthesis of steroid hormones and neurotransmitters

Zinc Normal fertility and reproduction

Folate Maternal tissue growth during pregnancy

Dairy foods and ingredients naturally provide a wide range of nutrients which are important for pregnant and lactating women; including high quality proteins, calcium, phosphorus, potassium, iodine, vitamin A, riboflavin, vitamin B12 and folate.³



Tirlán has a broad portfolio of ingredients which provide the essential nutrients necessary for pregnant and lactating women. When it comes to protein, it is important to consider both the quality and quantity. Protein quality is a measurement of the Essential Amino Acids (EAAs) composition of a protein source. EAAs cannot be synthesised by the body and therefore, need to be consumed through the diet.

Dairy protein is considered a “complete” protein source containing all the essential amino acids vital for human health in unmatched quantities, and can compensate for deficiencies in our diets. Tirlán’s Solmiko and Solago advanced, high quality proteins are naturally rich in all 9 essential amino acids.

Our ingredients are a good source of key nutrients needed for pregnancy and lactation

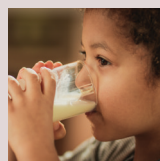
	Solmiko MPC	Solmiko MPI	SolmikoHD MPI	SolagoHD MPC
Energy (kcal)	359	359	362	362
Protein (g)	81	85.5	85	82
Calcium (mg)	2220	2220	2220	2330
Iodine (mcg)	70	90	40	30
Zinc (mg)	10	10	10	10
Total Folate	130	100	95	100
Vitamin B12	8.0	7.3	6.8	6.9

Typical values per 100g and subject to variation.

Benefits

- High in Protein
- High quality Protein
- From grass fed cows
- Low in Sugar
- Low Fat
- Superior heat stability
- Higher bulk density
- Enhanced solubility
- Vegetarian, halal and kosher
- Clean, fresh dairy taste

Solmiko and Solago are suitable for a variety of applications



Child nutrition such as follow-on formula and growing up milk



RTD beverages including meal replacement.



Protein fortified foods



Yogurts



Ready meals



Bakery and cereals

In addition to our proteins our Whole Milk Powder and Skim Milk Powder are made from the highest quality milk from grass fed cows and also a good source of nutrition for maternal health.

	Whole Milk Powder	Skim Milk Powder
Energy (kcal)	509	353
Protein (g)	24	32
Calcium (mg)	920	1200
Iodine (mcg)	100	160
Zinc (mg)	3	4
Total Folate	60	70
Vitamin B12	2.8	3.8

Typical values per 100g and subject to variation.

OUR UNIQUE DAIRY SYSTEM



Grass fed cows

Outdoor grazing on nutritious grass for most of the year



Cleanest air in Europe

Urban outdoor air pollution index



Island location

On the edge of the Atlantic Ocean with plentiful rain



Product quality

Multiple checkpoints from farm to factory



Food authenticity

Produced honestly by safe family farms



Clean label

Non-GMO, hormone-free, Kosher & Halal



Cow & milk traceability

From grassland to customer



Trusted Partner

Supporting leading global brands

OUR R&D FUNCTION



The Innovation Hub

Our Innovation Hub houses world class facilities enabling us to bring our concepts to life.



Leading the way in process and technology

Functionalising and developing ingredients whilst always maintaining nutritional integrity.



Our external ecosystem

Our extensive network of external partners ensures we are agile.



Developed by our experts

Our team of experts passionately researching the worlds of dairy and plant.



Providing superior nutrition

At Tirlán the foundations of nutrition are built on dairy and plant. Our ethos: "Good for You, Good for the Planet".

References

1. Goldstein, R.F., et al, 2017. Association of gestational weight gain with maternal and infant outcomes: a systematic review and meta-analysis. JAMA, 317(21), pp.2207-2225.
2. Ballard, O. and Morrow, A.L., 2013. Human milk composition: nutrients and bioactive factors. Pediatric Clinics, 60(1), pp.49-74.
3. National Dairy Council, The role of dairy in maternal and infant health. <https://ndc.ie/wp-content/uploads/2020/03/DN-Forum-Maternal-Spring-20-Digital.pdf>



Get in Touch

To find out more about how Tirlán can support you in developing your solutions, please contact us directly.

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