



29 August, 2024

A1, A2 Milk and its products

Context: The FSSAI initially directed Food Business Operators to stop marketing milk products as "A1 and A2," but later withdrew the advisory.

➤ Difference Between A1 and A2 Milk

- **Protein Structure:** The A1 and A2 classification of milk is linked to differences in the beta-casein protein's structure.
- **Beta-Casein Composition:** Over 80% of proteins in cow's milk are caseins, with beta-caseins being the second largest component.
- **Genetic Variants:** A1 and A2 are genetic variants of beta-caseins differing in their amino acid sequence.
- **A1 Beta-Casein:** Contains histidine, which helps produce histamine involved in regulating inflammation and allergies.



A1 MILK

- Contains A1 Beta casein
- Genetically mutated to produce 15-20 litres of milk per day
- Has low nutrition
- Causes Bloating, Stomach Ulcer, Gas
- Most people are A1 protein intolerant, not lactose intolerant
- Given growth hormone injections, antibiotics or GMOs.
- Have No hump which stores Vitamin D
- Treated as Milk-Making Machines
- Kept in unnatural and highly stressful conditions
- Confined to a small place
- Boosted in quantity to meet high demand of milk
- Causes Autism, Schizophrenia, Type 1 Diabetes, Sudden Infant
- Death Syndrome (SIDS), Cardiac disease



A2 MILK

- Contains A2 beta Casein
- Has Omega 3 that cleans cholesterol deposits
- Has Cerebrosides which increases brain power
- Has Strontium which enhances body immunity
- Naturally easy to digest
- Cures Irritable bowel symptoms
- Naturally produces 3-9 litres of milk per day
- Has Colostrum like in 'human mother's milk'
- Has hump on the back which absorbs Vitamin D
- Cows, bulls and calves grow together as a family
- Calves are fully fed first
- No use of growth hormone injections, antibiotics or GMOs.

- **A2 Beta-Casein:** Contains proline, which is important for collagen, joints, and tendons.

➤ Health Implications

- **Research Findings:** Some studies suggest that A2 milk may be linked to fewer health problems like type-1 diabetes, coronary heart disease, and autism compared to A1 milk.

- **2012 Study:** Suggested a potential link between A1 beta-caseins and certain health issues, with A2 milk consumers being less susceptible.
- **Current Research:** Many findings are based on in vitro and animal studies, with limited clinical trials and poor designs.
- **Need for More Evidence:** More solid scientific evidence is needed to conclusively determine the health effects of A1 versus A2 milk.

➤ Basis for FSSAI's August 21 Advisory

- **Regulatory Standards:** The advisory was based on current FSSAI standards, which do not recognize A1 and A2 differentiation.
- **Standards Reference:** Food Safety and Standards (Food Product Standards and Food Additives) Regulations, 2011 do not mention A1 and A2 types.
- **Directive:** Food Business Operators, including e-commerce sites, were instructed to remove A1 and A2 claims from product labels.

➤ Withdrawal of Advisory

- **Criticism and Influence:** The advisory faced growing criticism, including from government circles.
- **ICAR Letter:** Venugopal Badaravada, an ICAR member, requested the advisory's withdrawal and suggested forming a high-level committee for further discussion.
- **Global Trend:** The letter argued that the decision contradicted global practices in countries like the USA, Australia, New Zealand, and Brazil, where A1 and A2 milk are marketed separately.

Microplastics

Context: New research has revealed that personal care products (PCPs) such as face washes and shower gels in India contain a significant amount of harmful microplastics.

➤ Findings of the Research

- **Microbead Presence:** 23.33% of products contained cellulose microbeads. Microbeads were primarily white, possibly to obscure detection.
- **Materials:** Microbeads were made from polyethylene (most common), polypropylene, and polyester.
- **Concentration:** Microbeads made up an average of 1.34% of each product, ranging from 0.04% to 5.04%. Per 30 grams:
 - Face Wash: 0.26g
 - Face Scrub: 0.90g
 - Body Scrub: 1.24g
 - Shower Gel: 1.74g
- **Size and Shape:** Average sizes were 640.74 µm (face wash), 452.45 µm (face scrub), 556.66 µm (body scrub), and 606.30 µm (shower gel). Most beads were irregularly shaped.

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- **Polycaprolactone:** Found in two samples; known for potential developmental issues in aquatic life.
- **Greenwashing:** Labels like “organic” and “eco-friendly” often mislead consumers about plastic content.

➤ Classification of Microplastics

- **Primary Microplastics:** Directly released into the environment. Includes:
 - Plastic fibers from synthetic fabrics
 - Plastic pellets used in manufacturing
 - Microbeads in personal care products (e.g., nylon)
- **Secondary Microplastics:** Result from the degradation of larger plastics, such as:
 - Plastic bottles, bags, fishing nets, and food packaging

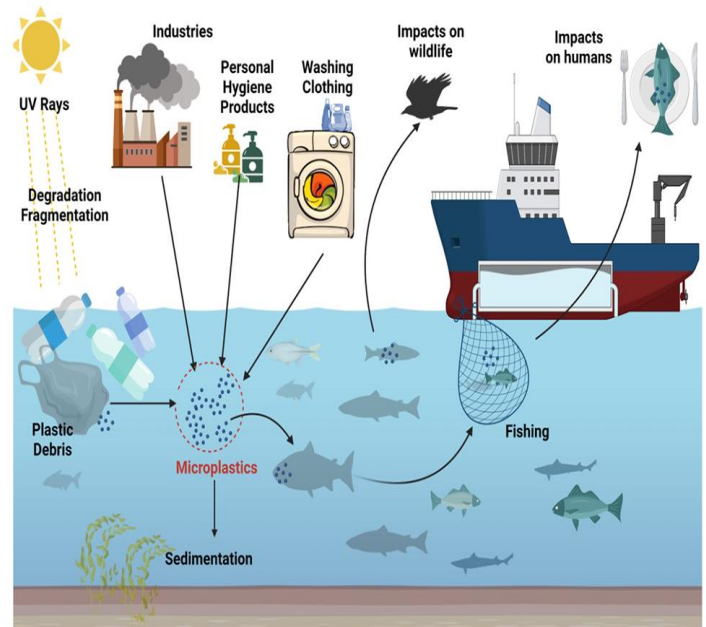
➤ Sources of Microplastics

- **Personal Care Products:** Microbeads in exfoliating scrubs, toothpaste, and cosmetics.
- **Textiles:** Synthetic fabrics like polyester and nylon release microfibers when washed.
- **Plastic Waste:** Degraded plastic litter fragments into microplastics.
- **Industrial Processes:** Use of microplastic abrasives in manufacturing.
- **Tire Wear:** Wear and tear of vehicle tires releases microplastic particles.

➤ Impact of Microplastics

- **On Human Health:**
 - **Exposure Sources:** Drinking water, airborne dust, and bottled water.
 - **Health Effects:** Can enter the body via the digestive tract or blood, affecting organs and tissues. Impacts include:
 - ❖ Immune system, brain, and hormonal disruptions
 - ❖ Potential to impair red blood cell function
 - ❖ Presence in placentas and fetal organs
 - ❖ Harm to human cells and contributions to respiratory issues
 - ❖ Increased vulnerability in children under five
- **On Marine Ecosystems:**
 - **Ingestion:** Marine species ingest microplastics, affecting feeding and survival.
 - **Impact:** Causes starvation, reduced reproduction, and increased marine pollution.
- **On Ecosystems:**
 - **Filtration Issues:** Microplastics bypass wastewater treatment and damage the food chain.
 - **Effects:** Leads to stunted growth, behavioral changes, and presence in dead marine animals.

- **Persistence:** Plastics are slow to degrade, causing bioaccumulation and biomagnification. They transport harmful chemicals.



➤ Initiatives Taken

- **Global Initiatives:**
 - **G7 Summit (2015):** Addressed microplastic dangers; GloLitter Partnerships Programme aims to reduce marine plastic litter.
 - **World Environment Day (2018):** Pledge to “Beat Plastic Pollution” with support from 30 nations.
 - **London Convention (1972):** Regulates ocean waste disposal and marine pollution sources.
 - **Plastics Pacts:** Business-led initiatives to improve plastic packaging value chains, starting with the UK in 2018.
 - **Global Partnership on Marine Litter (GPML):** Established in 2012 to address wastewater and marine litter pollution.

➤ Initiatives in India:

- **Single-Use Plastic Ban (2019):** Nationwide ban by 2022, starting with urban Delhi.
- **Plastic Waste Management Regulations (2016):** Municipalities responsible for plastic waste management infrastructure.
- **Plastic Waste Management (Amendment) Rules (2018):** Introduced Extended Producer Responsibility (EPR).
- **Un-Plastic Collective:** A voluntary effort by CII, WWF-India, and UNEP-India to reduce plastic pollution’s ecological and social impacts.

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Agriculture Infrastructure Fund

Context: The Union Cabinet, led by Prime Minister Narendra Modi, approved an expansion of the 'Agriculture Infrastructure Fund' to enhance its attractiveness, impact, and inclusivity.

➤ Expansion of Agricultural Infrastructure Fund (AIF) Scheme

- **Viable Farming Assets:** Inclusion of all eligible beneficiaries for infrastructure creation under 'viable projects for community farming assets' to boost productivity and sustainability.
- **Integrated Processing Projects:** Addition of integrated primary and secondary processing projects to eligible activities, while standalone secondary projects will be covered under MoFPI schemes.
- **PM KUSUM Component-A:** Allow convergence of Component-A of PM-KUSUM with AIF for farmers, Farmer Producer Organizations (FPOs), cooperatives, and panchayats, promoting sustainable clean energy and agricultural infrastructure development.
- **NABSanrakshan:** Extension of AIF credit guarantee coverage for FPOs through NABSanrakshan Trustee Company Pvt. Ltd., enhancing financial security and encouraging investment in agricultural infrastructure.

➤ Agriculture Infrastructure Fund (AIF) Scheme Overview

- **Approval and Duration:** A Central Sector Scheme approved by the Union Cabinet in 2020, operational from FY2020 to FY2032.
- **Objective:** Provides medium to long-term debt financing for investments in post-harvest

management infrastructure and community farming assets.

- **Eligible Beneficiaries:** Includes farmers, Farmer Producer Organizations (FPOs), Primary Agricultural Credit Societies (PACS), marketing cooperative societies, Self-Help Groups (SHGs), Joint Liability Groups, agri-entrepreneurs, startups, and public-private partnership projects sponsored by Central/State agencies or local bodies.
- **Financial Support:** Rs. 1 lakh crore in loans provided by banks and financial institutions.
- **Loan Benefits:** Loans come with a 3% per annum interest subvention and credit guarantee coverage under CGTMSE for amounts up to Rs. 2 crores.

➤ Performance of the Agriculture Infrastructure Fund (AIF) Scheme

- **Uneven Allocation:** Over 65% of funds were directed to eight states, with only 9% allocated to Punjab and Haryana and 3% to North-Eastern states.
- **Debt Integration:** The scheme offers interest subvention for loans up to ₹2 crore.
- **Institutional Dependence:** Success relies on financial institutions' credit assessments and willingness.
- **Credit Guarantee:** Coverage is limited to ₹2 crore, which may not suffice for larger projects.
- **Inclusivity and Integration:** Focus on inclusivity and grants for underprivileged entrepreneurs might increase credit risk. Convergence with other schemes and farm-gate-led models are crucial for success.

NEWS IN BETWEEN THE LINES

Recently, the 17th Paralympic Games opened with a grand ceremony at Place de la Concorde and Champs-Élysées in Paris, where approximately 50,000 people gathered to witness the event.

About Paralympics:

- The Paralympics is a **major international multi-sport** event involving athletes with various **physical, visual and intellectual disabilities**.
- It includes categories such as amputations, **blindness, cerebral palsy** and **spinal cord injuries**.
- First Paralympics was held in Rome, **Italy, in 1960**, following the 1960 Summer Olympics.
- It evolved from the **Stoke Mandeville Games**, which began in **1948** in England for World War II veterans with spinal cord injuries.
- **International Paralympic Committee (IPC)**, founded in **1989** headquartered in Bonn, Germany.
- The Paralympics **includes 22 sports** such as **athletics, swimming, wheelchair basketball** and **boccia**.
- **Boccia** is the only sport in the Paralympic programme that **does not have an Olympic counterpart**.
- The Paralympic symbol features **three Agitos** (from the Latin "I move"), **colored red, blue and green**.

Paralympics





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	<ul style="list-style-type: none"> ▪ Pal Szekeres is uniquely distinguished as the only person to have won medals at both the Olympic Games (as an able-bodied athlete) and the Paralympic Games (as a wheelchair athlete). ▪ Trischa Zorn of the United States is the most decorated Paralympian of all time, with 46 medals, including 32 gold, nine silver and five bronze medals.
<p>Personality in News Major Dhyan Chand</p> 	<p><i>Youth Affairs and Sports Minister Dr. Mansukh Mandaviya paid a floral tribute to Major Dhyan Chand on his birth anniversary (National Sports Day) at Major Dhyan Chand National Stadium in New Delhi today in morning.</i></p> <p>Major Dhyan Chand (29 August 1905 – 3 December 1979): Major Dhyan Chand, an Indian greatest field hockey player and the Wizard of Hockey was born in Allahabad (Now Prayagraj), Uttar Pradesh.</p> <p>Contributions:</p> <ul style="list-style-type: none"> ▪ Major Dhyan Chand led India to win gold medals in field hockey at the 1928 Amsterdam Olympics, the 1932 Los Angeles Olympics, and the 1936 Berlin Olympics. ▪ He started playing with the British Indian Army regimental team before joining the Indian national team. <p>Awards and Honours:</p> <ul style="list-style-type: none"> ▪ He was awarded the Padma Bhushan in 1956 for his contributions to the sport of hockey. ▪ The Rajiv Gandhi Khel Ratna Award has been renamed the Major Dhyan Chand Khel Ratna Award, which includes a cash prize of Rs 25 lakh. ▪ The National Stadium in New Delhi was also renamed as the Dhyan Chand National Stadium in 2002 in his honour. ▪ In 2012, the government of India decided to celebrate his birth anniversary as National Sports Day annually.
<p>Place in News Israel</p>	<p><i>Yesterday on 28th of August, the 17th India-Israel Foreign Office Consultations were held in New Delhi.</i></p> <p>Israel (Capital: Jerusalem) Location: Israel is situated in the Southern Levant region of Western Asia, along the eastern shore of the Mediterranean Sea.</p> <p>Political Boundaries: Israel shares its borders with Jordan (East), Mediterranean Sea (West), Lebanon (North), Syria (Northeast) and Egypt (Southwest).</p> <p>Physical Features:</p> <ul style="list-style-type: none"> ▪ The highest point in Israel is Mount Hermon, located in the northern part of the country. ▪ The major rivers in Israel are the Jordan River, which forms part of the border with Jordan, and the Yarkon River, which flows through central Israel into the Mediterranean Sea. ▪ The country features several mountain ranges, including the Galilee, Carmel and the Golan Heights in the north. <p>Membership: Israel is a member of several international organizations, including the United Nations (UN), the World Bank, the International Monetary Fund (IMF) and the Organisation for Economic Co-operation and Development (OECD).</p> 

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POINTS TO PONDER

- What is the name of the rocket that will be used by Jeff Bezos' aerospace venture Blue Origin for its eighth tourist mission to suborbital space today on 29th of August? – **New Shepard**
- Which recent report by the World Meteorological Organization highlights that sea level rise in the Pacific Ocean is occurring at a faster rate than the global average? – **State of the Climate in the South-West Pacific 2023**
- What term did the Reserve Bank of India use to describe the role of India's rural economy in the Fast-Moving Consumer Goods (FMCG) sector? – **Green Shoots**
- Since 2002, biologist Johannes Fritz and the Waldrappteam have successfully increased the population of which bird species in Central Europe from zero to nearly 300? – **Northern Bald Ibis**
- Which wildlife sanctuary in Arunachal Pradesh's Lower Subansiri district was the site of a recent expedition where a Mumbai-based lepidopterist recorded 85 butterfly species? – **Tale Wildlife Sanctuary**

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