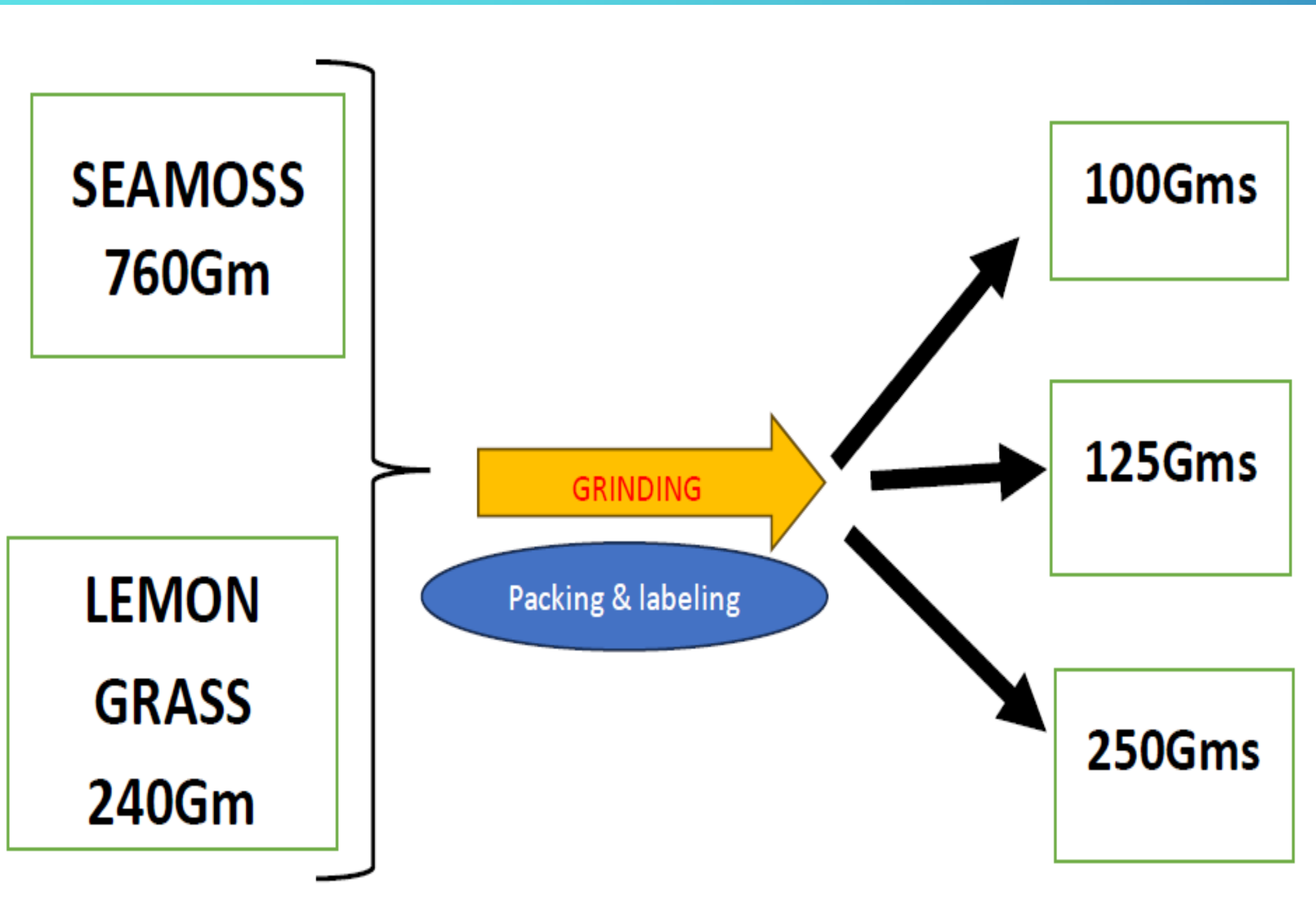


Can Sea Moss be used as a Therapeutic Food and Multiple Micronutrient Supplement in Tanzania?

Experience from field



Whats seamossplus?



Rationale:



1. Use aroma from citral to manage sea-smell
2. Alpha Citral increases sugar perfusion in peripheral tissues
3. limonene (anti-inflammatory), geraniol (antifungal), myrcene (sedative/analgesic), and citronellal.

Safety consideration

HEAVY METALS

SOURCING AND PROCESSING

GOVERNMENT CHEMIST LABORATORY AUTHORITY

GCLA 02

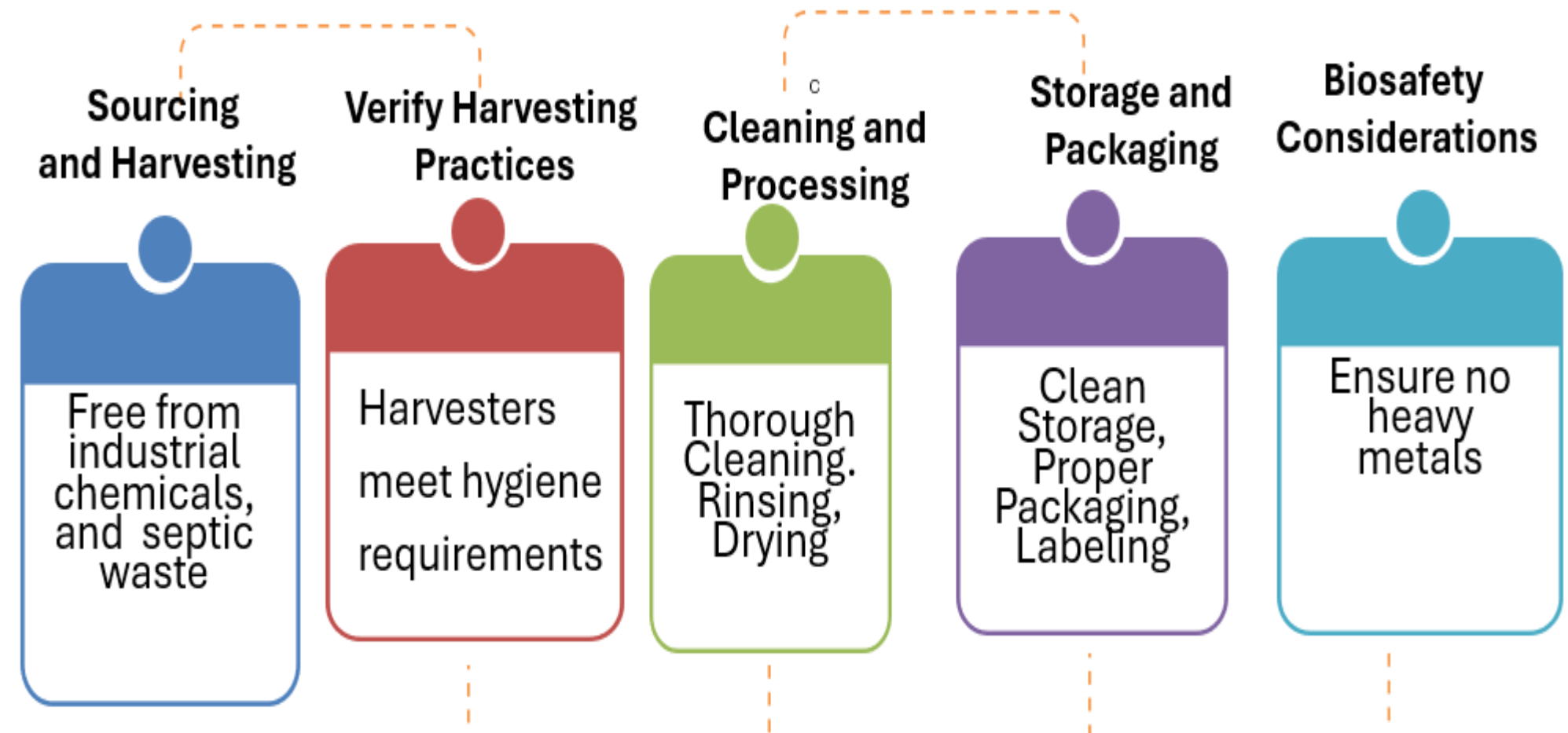
CERTIFICATE OF ANALYSIS

Metals	
Mercury (ppm)	Not detected
Chromium (ppm)	Not detected
Cadmium (ppm)	Not detected
Arsenic (ppm)	Not detected
Lead (ppm)	Not detected

Report as Released by
Chief Government Chemist
cgc@gcla.go.tz

Protocols for SeamossPlus production

Reference: Report of the Scientific Committee of the Food Safety Authority of Ireland (2000), harvest Handling and Storage Practices and Techniques (FAO), Tanzania Bureau of Standards TZS 2750:2022 ICS 67.120.30



GLOBAL PICTURE

1

Globally, undernutrition contributes to nearly **45%** of deaths among < 5, mostly in many low- and middle-income countries.

2

Micronutrient deficiencies such as iron, iodine, vitamin A, and zinc deficiencies affect **>2 billion** people worldwide.

3

WHO and UNICEF increasingly emphasize **food-based nutrition strategies** to complement supplementation and fortification programs.

UNDER-NUTRITIONAL PICTURE IN TZA

1

About 59% of children aged 6–59 months and 41.5% of women aged 15–49 years have Iron deficiency (anaemia).

2

Iron, vitamin A, and zinc deficiencies affect up to 58% of children under five and 45% of women of reproductive age.

3

MMND, & child malnutrition, result in an estimated economic loss of 2.6% of (GDP) annually, equal to TSh 3.47 trillion (\$1.3 billion) annually

Can Sea Moss be used as a
Therapeutic Food and **Multiple
Micronutrient Supplement?**

Macro Nutrients

- ✓ Carbohydrates with sulphated polysaccharides
- ✓ Polyphenols (antioxidant & Anti-inflammatory)
- ✓ Proteins with essential amino acids
- ✓ Lipids (polyunsaturated fatty acids - PUFA)

Minerals

- ✓ Calcium
- ✓ Iron
- ✓ Iodine
- ✓ Magnesium
- ✓ Phosphorus
- ✓ Potassium
- ✓ Zinc
- ✓ copper
- ✓ Manganese
- ✓ Selenium
- ✓ fluoride

Organic Compounds

- ✓ Flavonoids
- ✓ Polyphenol (phlorotannin)
- ✓ Sterols (fucosterol & isofucosterol)
- ✓ Alkaloids (phenylethylamine)
- ✓ Triterpenoids
- ✓ Fucoidans (Antibacterial)

Vitamins

- ✓ Vitamins A
- ✓ Vitamin B1
- ✓ Vitamin B2
- ✓ Vitamin B9
- ✓ Vitamin B12
- ✓ Vitamin C
- ✓ Vitamin D
- ✓ Vitamin E
- ✓ Vitamin K

SEAMOSSPLUS AS THERAPUTIC FOOD-1

SUPPORT HEART HEALTH

Source of folate (vitamin B9), which plays a role in heart health, Improves cholesterol balance, acting as a blood thinner, and lowering blood pressure. source of omega-3 fatty acids and contains bioactive compounds with anti-inflammatory properties

BLOOD PRESSURE REGULATION

Magnesium and phosphorus support blood pressure regulation. Fucoidan has Reno protective effects, including reducing renal fibrosis, renal stones and glomerular sclerosis.

HELP FIGHT CANCER

Helping in the fight against cancer (Fucoidan can induce apoptosis, inhibit angiogenesis)

ANTI-OXIDANT

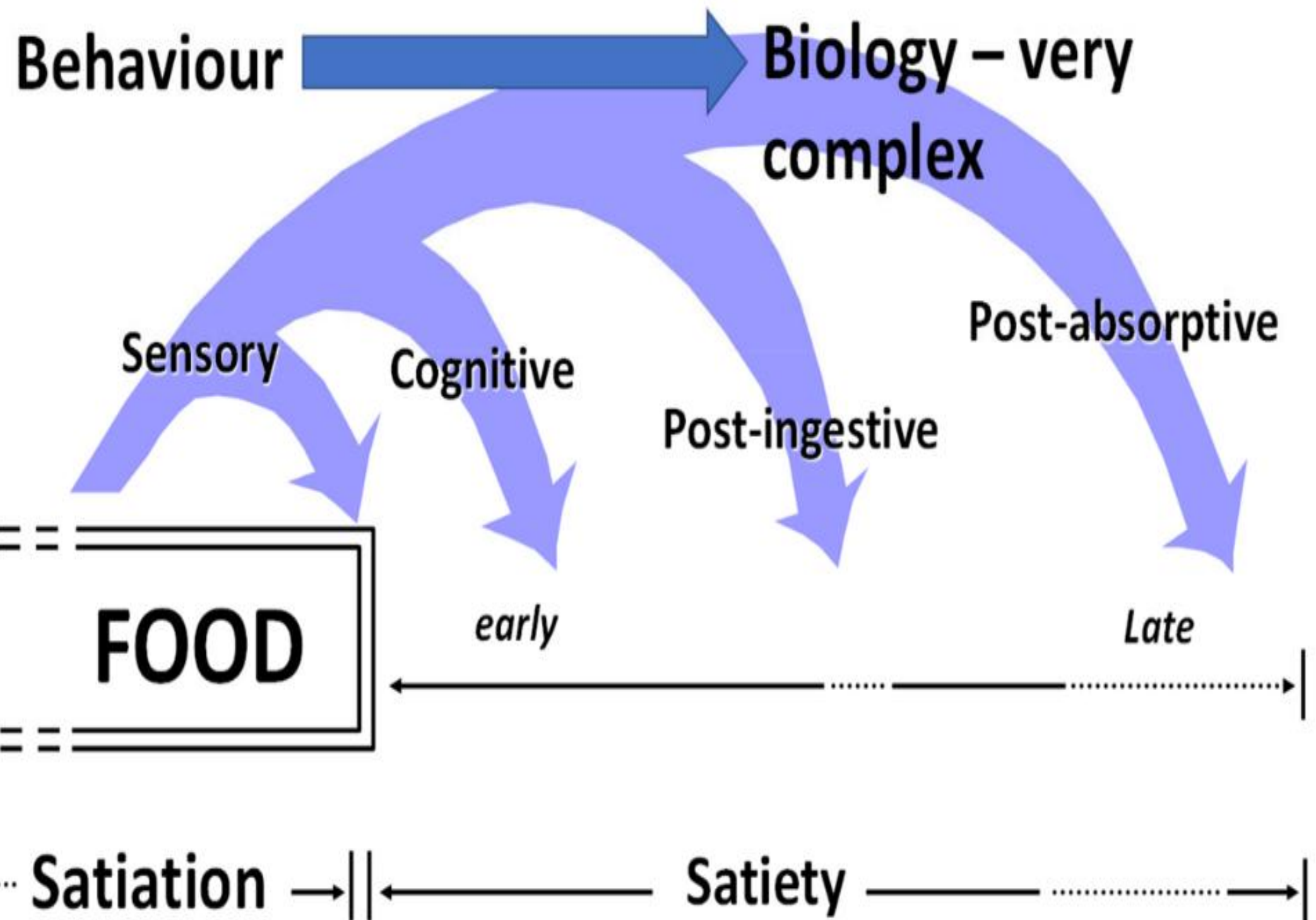
Neutralize harmful free radicals. Prevent oxidative stress, Protect against cellular damage, onset of diseases like heart disease, cancer, and neurodegenerative diseases.

WEIGHT MANAGEMENT

Promoting feelings of fullness, aiding digestion, and potentially influencing fat metabolism. It Increase satiety and potentially improving metabolism, beneficial in preventing obesity.

Others: Iodine, folate, calcium, and zinc, which may support hormone levels in males and sexual function in postmenopausal women. Reduce inflammation in the prostate, potentially mitigating BPH

Satiety Cascade

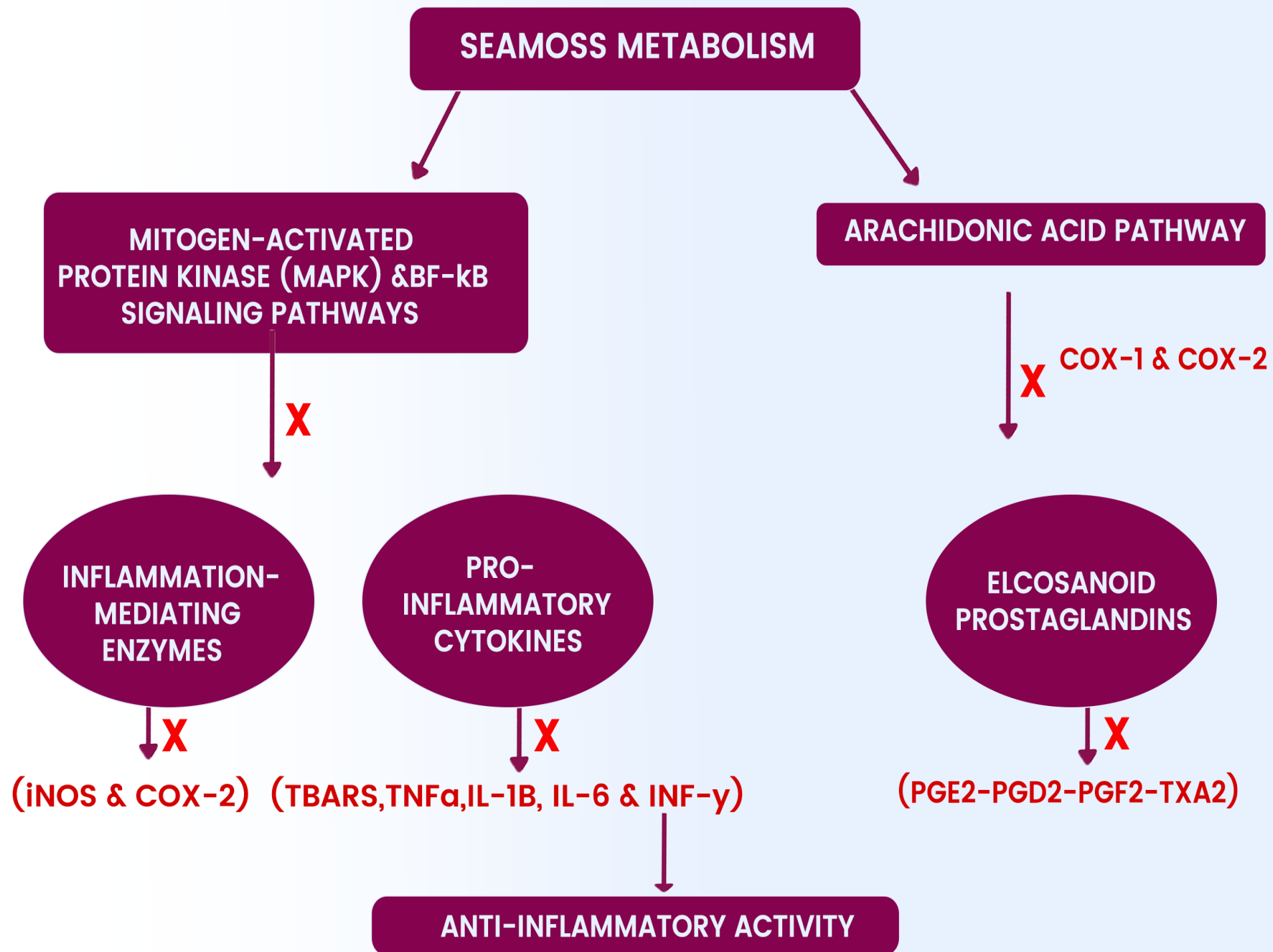


Satiety is the psycho-biological process that suppresses hunger after an eating occasion and prevents further eating; it is said to control snacking between meals

Satiety: Represents the cumulative effect of a variety of inhibitory sensory, cognitive, digestive, and hormonal signals that bring an eating occasion to an end; it is said to control meal size.

SEAMOSSPLUS AS THERAPUTIC FOOD-3

HOW SEAMOSS CAUSE ANTIINFLATORY RESPONSE



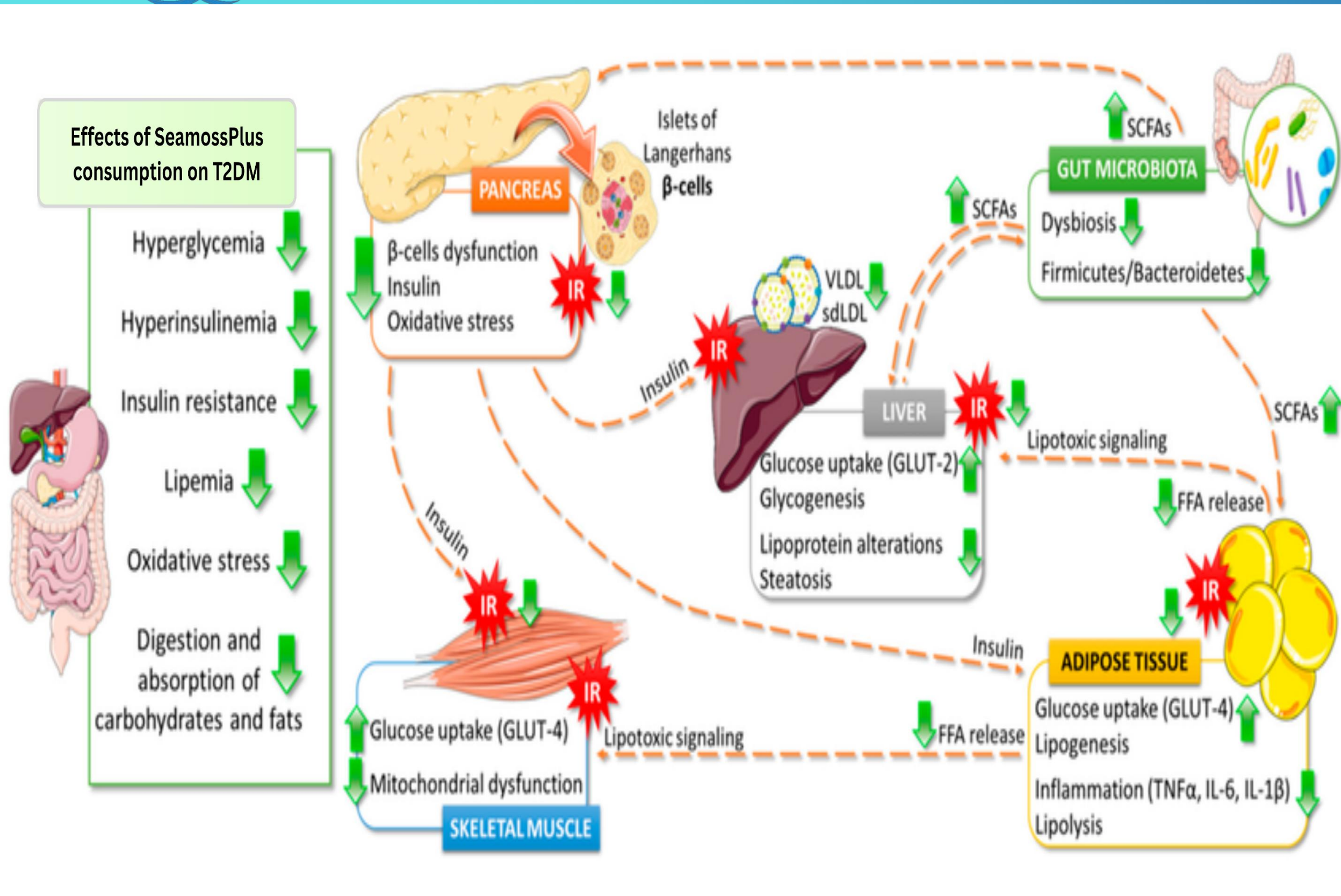
Ms. PAM (31yrs) has was on treatment at MNH for seven years – Nephrotic syndrome and secondary infertility. With generalized body swelling and body weakness. Prior to using SeamossPlus her protein in urine was 4.35gm (normal 0.15gms). After two months of using SeamossPlus powder (10 grams) daily, her body vitality had resumed, she felt whole again.

This time, her protein levels in urine dropped to 0.26gm which is almost 94%. She is now 6-7 months pregnant

SEAMOSSPLUS AS THERAPUTIC FOOD-4

Component	Mechanism of Action	Benefit
Fucoidan	Activates PI3K/Akt pathway → GLUT4 translocation	Improves glucose uptake
Polyphenols	Inhibit α -glucosidase & α -amylase enzymes	Slows sugar release
Soluble Fiber	Delays gastric emptying → steady glucose absorption	Reduces blood sugar spikes
Antioxidants	Reduce oxidative stress on pancreas β -cells	Improves insulin secretion
Iodine	Enhances thyroid hormone levels to	Indirectly regulates glucose

SEAMOSSPLUS AS THERAPUTIC FOOD-4



Mr. M.Z a 35-year-old male, from Kahama who was diagnosed with DM (RBG) 24.7mmol/l and Hb1AC 9.0% on July 2025. He used 10 gms of SeamossPlus per day consecutively. His lab test on January 31 January 2026 RBG was 5.9 mmol/l and his and Hb1AC 4.30% within normal range. Mr. MZ is a living testimony on how seamossplus manages blood sugar and body vitality

Prevention & Mgt of Hypertension

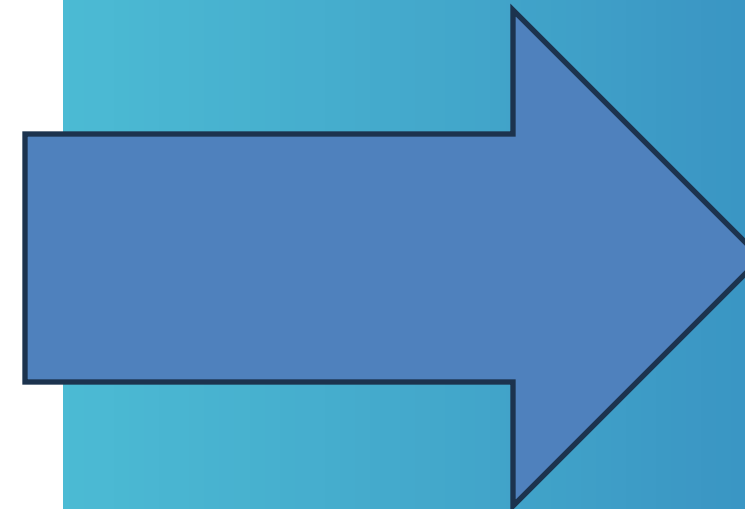
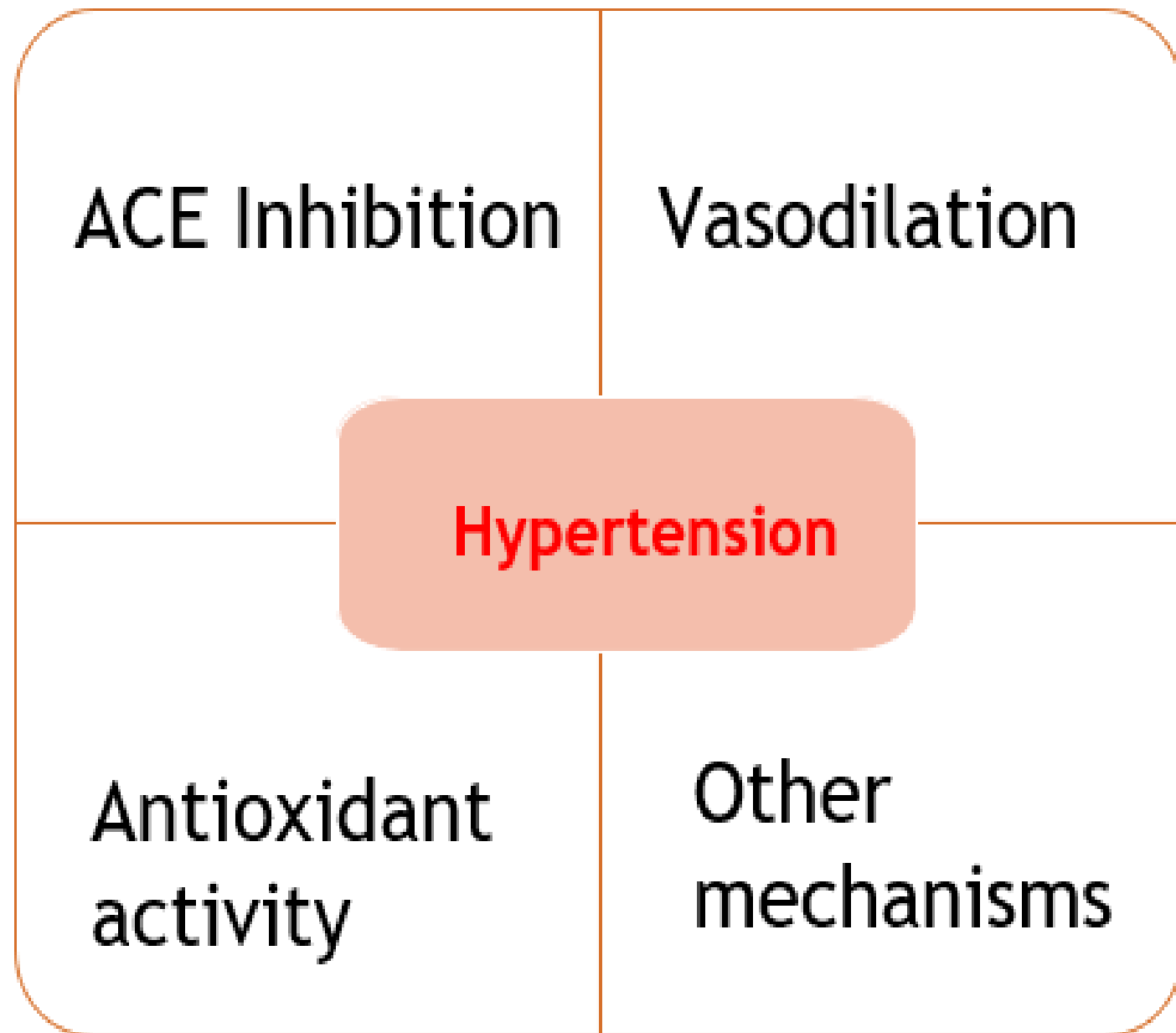


Fig2: Systolic start and ending

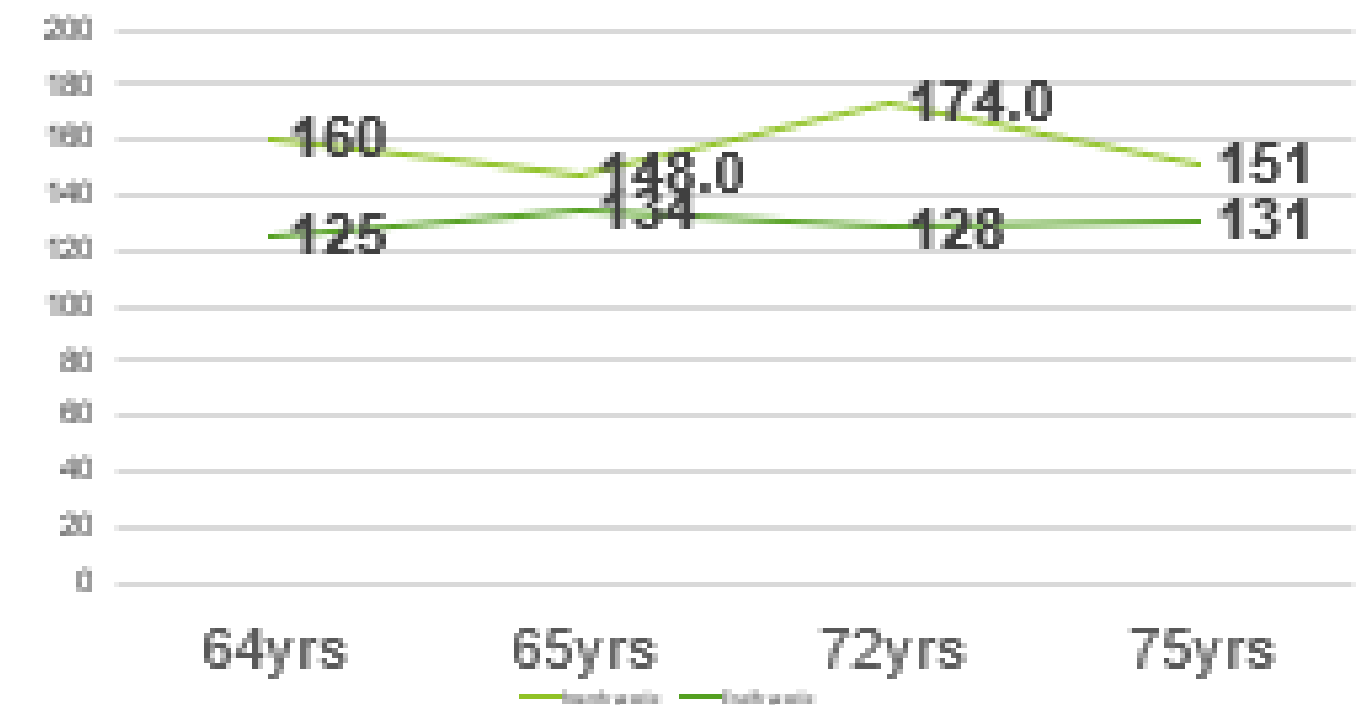
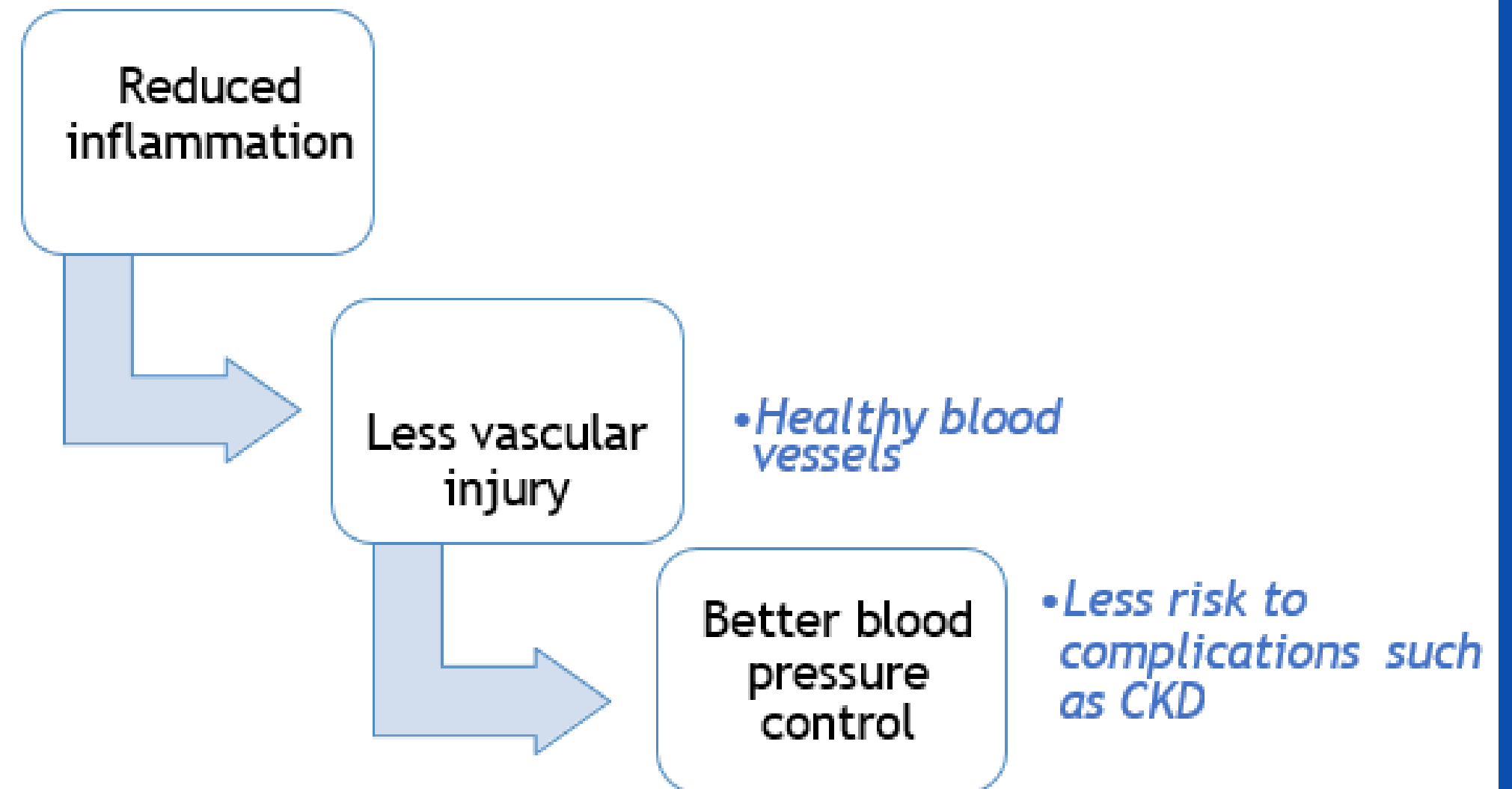


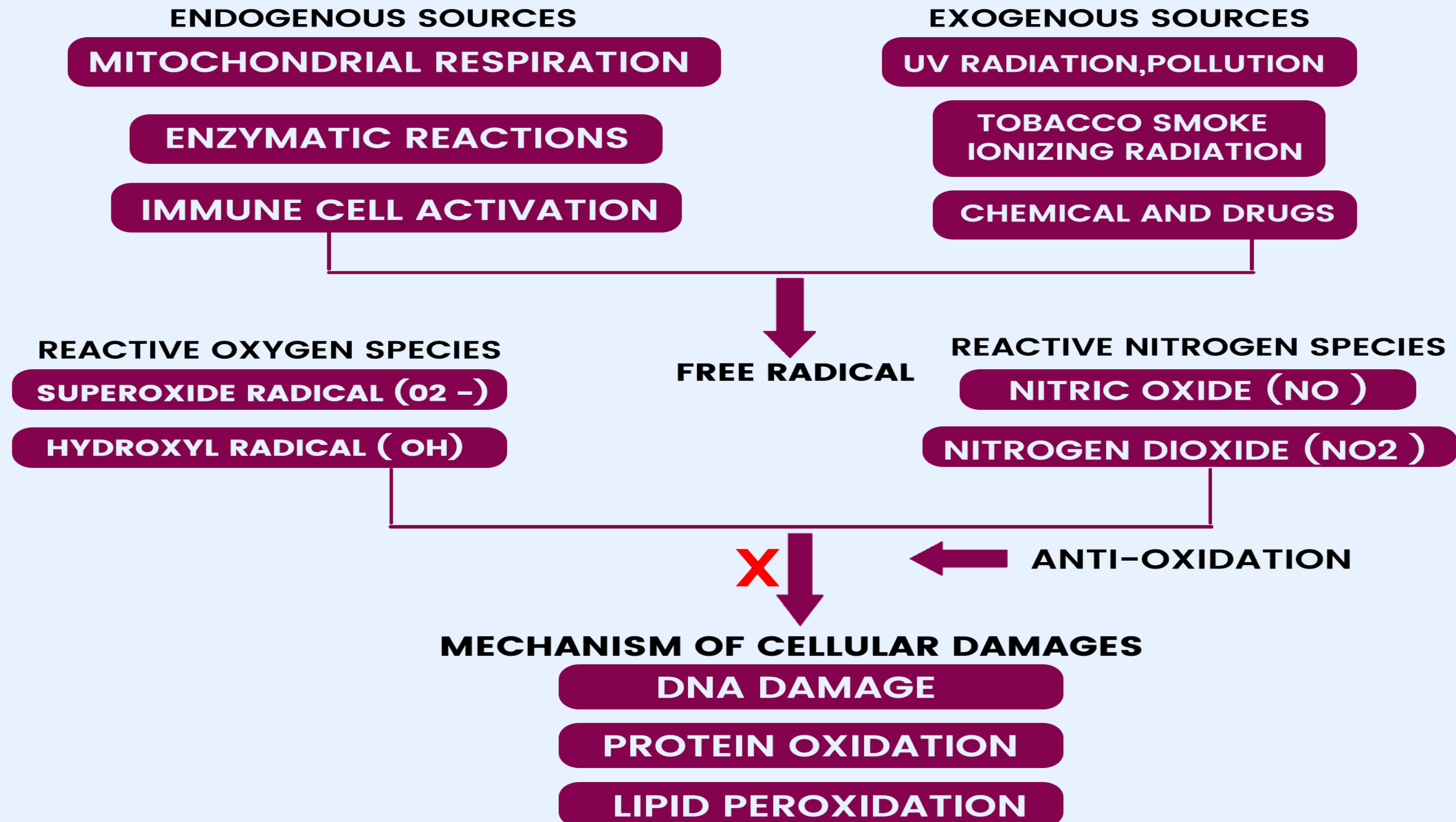
Figure 2. Systolic start and ending

Other Mechanism

- Some other bioactive compounds such as omega-3-fatty acids, fucoidan, and carrageenan contained in SeamossPlus have both anti-inflammatory and anti-hypertensive effects.
- They reduce inflammation, improve vascular functioning, and contribute to lowering blood pressure.



SEAMOSSPLUS AS ANTIOXIDANT-8



How SeamossPlus Acts Against Cancer

Component	Mechanism	Cancer-Fighting Benefit
Fucoidan	Triggers apoptosis; blocks metastasis; activates immune cells	Kills cancer cells, prevents spread, boosts immunity
Fucoxanthin	Inhibits proliferative pathways (PI3K/Akt & JAK/STAT)	Stops tumor growth
Antioxidants	Neutralize reactive oxygen species and free radicals	Prevents DNA damage and mutations
Polyphenols	Inhibit angiogenesis (VEGF suppression)	Starve tumors of blood supply
Selenium	Enhances antioxidant enzymes (GPx, SOD)	Improves cellular defense

Other References

From Sea to Plate: Empowering Women and Promoting Nutrition through Seaweed in Tanzania

By Nancy Cyprian Iraba

Key Studies: Hsu et al. (2013), Jin et al. (2014), Phase II trial (2019)

Key Studies

- Liu et al. (2019): Carrageenan increases GLUT-4 in fat cells
- El Khoury et al. (2015): Alginate lowers glycemic index
- Marine Drugs (2021): 12-week trial shows HbA1c drop in Prediabetics


<https://pubmed.ncbi.nlm.nih.gov/31030763/>



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Seaweed's contribution to food security in low- and middle-income countries: Benefits from production, processing and trade

Patrick Webb ^a  , Natalie K. Somers ^a  , Shakuntala H. Thilsted ^b  

THANK YOU

FOR BEING OUR PARTNER



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