THE HEALING POWER OF ENZYMES

Presented by Pharmacist RoseMarie Pierce
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Why Enzyme Supplements are Important

- Raw food contributes only enough enzymes for that particular food
- Raw foods rich in enzymes include:
  - Fresh fruits, vegetables, and sprouted or fermented foods
  - Pineapple, papaya, & kiwifruit contain high amounts of protein-digesting enzymes, or protease
- Enzymes in food are destroyed by:
  - Cooking, radiation & processing (wet heat >118°F or 47°C)
- Enzyme content is reduced by:
  - Long-term storage and shipping
  - Treatment with pesticides, preservatives, and other toxins
- Eating enzyme-dead foods places a burden on the pancreas & other organs, overworking them, which eventually exhausts these organs
What are the Signs of Enzyme Deficiency?

• The first signs of digestive enzyme deficiency are:
  – Bloating, belching, gas, bowel disorders,
  – Abdominal cramping, heartburn and food allergies

• Also, chronic illness of any kind & chronic constipation

• Other symptoms may include:
  – headaches
  – back pain, stiff neck & shoulders
  – chronic fatigue
  – yeast infections
  – nutritional deficiencies
  – slow recovery rate following an injury
Different Types of Enzyme Supplementation

• The body naturally produces two types:
  
• **Digestive enzymes ~ 22 types**
  – Secreted along the digestive system
  – Responsible for breaking down food
  – Allow nutrients to be absorbed into the blood

• **Metabolic enzymes ~ 5,000 varieties**
  – Found in every cell of all living organisms
  – Catalyze & regulate every biochemical reaction in the body

• **Natural enzyme levels are affected by:** enzyme-deficient diets, low body pH (acidosis), chemotherapy, stress, age, and digestive issues, i.e., low stomach acid, food intolerances (gluten, dairy, etc.) and constipation
Constipation: the Most Common G.I. Complaint

- Constipation isn’t just:
  - Hard stools
  - Infrequent bowel movements
  - Gut pain
  - Bloating & gas

- Constipation represents slow transit time, which can cause intestinal “undigested” food backup

- This can lead to:
  - Poor elimination of toxins & toxin reabsorption
  - Allergies
  - Hormonal imbalances

- Some experience: delayed gastric emptying, acid reflux & heartburn

- Often water, fibre and oils are not enough to support the bowels
Constipation is a Symptom

- Constipation can indicate a dysfunction in the body’s ability to:
  - Digest certain foods, most prevalently:
    - Dairy, especially dairy protein
    - Gluten-containing foods (wheat, rye, barely…)
    - Complex or “sticky” carbohydrates:
      - Whole grains (un-sprouted brown rice, flax)
      - Corn & corn products (popcorn, tortillas…)
      - Whole grain cereals, breads, pasta
      - Legumes (un-fermented soy, lentils, peas, beans)
      - Potatoes, other root vegetables
  - Absorb nutrients, vitamins & minerals
  - Eliminate toxins
Kiwi Colon-Zyme is a “colon-health” or digestive aid containing a potent Kiwi extract, Actazin™

Kiwi Colon-Zyme combines 10 plant-based enzymes that work to correct constipation, cleanse the bowel & support intestinal health
Kiwi Colon-Zyme with Colon Enzyme Blend

Each vegetable capsule of Kiwi Colon-Zyme (KCZ) contains

- **Colon Enzyme Blend** ................................................. 204.18mg
  - Amylase Blend (*B. subtilis/A. oryzae*) ......................... 7500 DU
  - Glucoamylase (*A. niger*) ........................................... 50 AGU
  - Beta Gluconase (*A. niger/T. longibrachiatum*) .......... 100 BGU
  - Protease Blend (*A. oryzae/B. blend*) ....................... 25,000 HUT
  - Peptidase (*A. oryzae*) (9,325 HUT) ......................... 250 DPPIV
  - Acid Stable Protease (*A. niger*) ............................. 25 SAPU

- **Kiwi (Actinidia deliciosa, fruit, Actazin™)** ............... 200 mg
  (providing 1800 AU/g Actinidin)

**Recommended Dose (Adults):** Take 2 V-caps at the start of the main meal. For severe constipation, take up to 4 V-caps at the start of the main meal, for the first few days or as required.

(A= Aspergillus; B= Bacillus ; T= Trichoderma)
Kiwi Promotes Healthy Colon Function

- Actazin™, a kiwi extract, has a unique action on colon health:
  - Proteolytic enzyme activity from the enzyme “Actinidin”:
    - Gently stimulates gut motility
    - Helps normalize bowel transit time
    - Changes the consistency of stool
  - Actinidin enzyme activity effectively digests proteins* including:
    - Dairy (casein & whey)
    - Meat
    - Corn (zein)
    - Wheat (gluten = glutenin, gliadin)

  www.ncbi.nlm.nih.gov/pubmed/20232890 & 20232891
Kiwi Promotes Healthy Colon Function

- Actazin™, a kiwi extract, has a unique action on colon health:
  - Beneficially modulates the intestinal bacterial enzymes, 13-glucuronidase and 13-glucosidase; aids colon health & liver detoxification
  - Fibre (pectin) content supports the growth of beneficial bacteria in the gut without causing gas or bloating
  - Extremely rich in Vitamin C*, kiwi also offers folate, potassium, carotenoids (lutein), polyphenols (quercetin), chlorophyll, and glutathione
  - Has high antimicrobial activity against both Gram-positive (Staph aureus & Strep mutans) and Gram-negative (Salmonella & E. coli) pathogenic bacteria*

*The Encyclopedia of Fruit & Nuts, by Jules Janick, Robert E. Paull
*International Journal of Applied Biology and Pharmaceutical Technology
Kiwi Extract Promotes Constipation Relief

- Based on the results of two clinical trials (with a high level of evidence based on their design), the following health claims are supported for kiwi fruit (equivalent to Actazin with a dose of 400mg/day or more):
  - Improves bowel movements in adults with constipation by improving colonic transit time (1)
  - Increases the frequency and ease of bowel movements in adults by improving the consistency and volume of stool (2)

Carbohydrase Enzymes in Kiwi Colon-Zyme

- KCZ contains several different types of carbohydrate enzymes that break down complex polysaccharides (starch or sticky carbs)

- **Amylase Blend**: Breaks down carbohydrates: starch, glycogen, and polysaccharides into smaller units; the combination of two types of amylase is more effective with a very broad pH range (3.5 - 10.0)
  
  Note: If proper chewing does not occur – amylase availability will be low

- **Glucoamylase**: Added to complement the presence of Amylase & further break down or hydrolyze starch at the terminal linkages

- **Beta-glucanase**: Breaks down beta D-glucan components, helps break down beta-linked glucose bonds often associated with grains, such as barley, oats and wheat
Protease Enzymes in Kiwi Colon-Zyme

• KCZ contains six proteases - addressing the issue of hard-to-digest proteins, moving them efficiently & quickly through the G.I tract

• **Protease Blend**: combines 3 protease enzymes - acid, neutral and alkaline proteases that will facilitate complete protein digestion with an effective pH range of 2.0 to 6.0. For this reason, Protease Blend provides protein digestion in the stomach and pyloric regions of the small intestine

• **Acid Stable Protease**: used with low stomach pH below pH of 2.0

• **Dipeptidyl peptidase IV (DPP IV)**: functions (pH range 2.8-11.0) in breaking down casein and side chain activity in breaking down gluten, thus supporting the digestion of casein-containing milk products as well as the protein in gluten-containing grains (this assists in normalizing inflammatory response to the gluten)
Kiwi Colon-Zyme Benefits

• Potent “colon-health” aid which helps to relieve:
  – Constipation
  – Bloating & Gas
  – Irregular bowel habits
  – Odorous bowel movements
  – Toxic colon build-up

• Helps to break down sticky, hard-to-digest carbohydrates, and proteins especially gluten*

• Aids in the complete digestion of all proteins, especially effective for meat and dairy proteins

• Effective over the entire pH range from pH 2.0–11.0

* Peptidase 250 (Dipeptidyl peptidase 4) DPP IV = 9,325 HUT
Kiwi Colon-Zyme Benefits

- Supports a gluten-free, dairy-free lifestyle
- Improves intestinal immune function & gut health
- Reduces inflammatory responses and potentially auto-immune diseases
- Improves nutrient absorption as well as protein & carbohydrate utilization,
- May directly improve all-over health
Prairie Naturals Kiwi Colon-Zyme Features

- **Powerful plant-sourced enzymes:**
  - Six proteolytic enzymes including Protease DPPIV
  - Four carbohydrazide enzymes for hard-to-digest starches
  - Actazin™, a natural Kiwi extract containing a potent proteolytic enzyme, minerals, vitamins, fibre and polyphenols

- **Convenient dosage:** taken only once per day

- **Fast-acting:** bowel evacuation may occur within 24 hrs

- **Dual function:** constipation relief & “colon-health” aid

- **Totally Vegan** product: 100% pure vegetable capsules

- **Contains non-GMO:** both ingredients and enzymes

- **Specially formulated:** a unique constipation formula
Colon Kiwi-Zyme For Constipation Relief

Instead of prunes Try Kiwi.
Betaine HCl is a stomach acid supplement supplying hydrochloric acid - an essential component of gastric-juce
Hydrochloric Acid in the Stomach

• Gastric acid consists mainly of hydrochloric acid, which functions to:
  – Acidify the stomach & liquefy dry or solid food into chyme
  – Denature proteins supporting digestion by protease enzymes
  – Activate enzyme pepsin, thereby assisting in protein digestion
  – Encourages the flow of bile & pancreatic enzymes
  – Assist in proper absorption of most minerals & trace elements (especially Ca, Zn, Magnesium, & non-heme Iron)
  – Support optimal absorption of several nutrients, including folic acid, ascorbic acid, beta-carotene, & Vitamin B12
  – Render the stomach sterile against orally-ingested pathogens
  – Prevent pathogen overgrowth in the stomach & small intestine

Signs of Low HCl (Hypochlorhydria)

- Bloating or distention, belching, & flatulence immediately after meals
- Sore, burning or dryness of the mouth
- Indigestion, heartburn, diarrhea, or constipation
- A prolonged sense of fullness long after eating
- Multiple food sensitivities
- Nausea after taking supplements
- Rectal itching
- Iron & calcium deficiencies
- Acne
- Dilated blood vessels on the cheeks & nose
- Chronic candida, or intestinal parasites
- Hair loss in women & poor quality nails
Prairie Naturals Betaine HCl Benefits:

• People with inadequate or impaired gastric secretions from:
  – Injury, surgery
  – Antacids, or other acid-reducing meds – Losec, Pepcid, Zantac, Tagamet etc…

• Aging seniors not responding to nutrient supplementation
  – Particularly vitamin B’s & minerals - Solutions are another option

• Numerous conditions: Childhood asthma, alcoholism, chronic skin conditions, digestive disturbances, hypo- or hyperthyroid, arthritis, osteoporosis, pernicious anemia & intestinal permeability

• Those with an overgrowth of pathogenic bacteria or fungi, and evidence of parasites

• Diseases associated with the pancreas or gallbladder (stones)
Prairie Naturals Betaine HCl Features

- Natural plant-sourced, not animal-sourced
- 500mg Betaine (TMG from beets) HCl – 24% HCl
- Natural peppermint extract + flavour added
- Pleasant smelling, easier to take
- Does not contain pepsin (Pepsin is derived from animal intestines, and may contain contaminants)
- 100% pure vegetable capsules
- Totally vegan product
- Contains no GMO ingredients

TMG = Trimethylglycine + HCl
Bromelain-Zyme Label

• A synergistic blend of proteolytic enzymes, combining three of the most powerful plant-based enzymes – bromelain from pineapple; papain from papaya; and actinidin from kiwi
• Work together to ensure the proper breakdown of the animal- and plant-sourced proteins
Bromelain-Zyme

Each vegetable capsule contains:

- Bromelain (Pineapple Stem).........................350mg (providing 2,400 GDU/g and 3,600 MCU/g)
- Papain (papaya fruit)....................................50 mg (providing 2,000,000 USP/g)
- Kiwi (Actinidia deliciosa, fruit, Actazin)....... 100 mg (providing 1800 AU/g Actinidin)

Recommended Use (Adults): As a digestive aid, enhances protein digestion – with meals. Acts as natural anti-inflammatory agent

Recommended Dose (Adults): Take 2 capsules twice daily with meals or on an empty stomach

25% stronger in Bromelain activity & 45% stronger in protein-digesting ability than Prairie’s previous Bromelain
Bromelain Anti-inflammatory Action

- Bromelain’s anti-inflammatory activity appears to be due to a variety of physiological actions:
  - Inhibiting the generation of bradykinin at the inflammatory site
  - Selectively modulating inflammatory prostaglandins
  - Limiting the formation of fibrin by the reduction of clotting cascade intermediates
  - Shown to decrease aggregation of blood platelets
  - May increase absorption of antibiotics
Bromelain Safety & Dosage

• Toxicity
  – Bromelain is considered to have very low toxicity, with an LD$_{50}$ greater than 10 g/kg
  – In human clinical tests, side effects are generally not observed

• Precautions:
  – Active ulcers, other bleeding disorders or use of blood thinners
  – Diabetics with gastroparesis – delayed gastric emptying
  – There is an allergenic potential of all proteolytic enzymes

• Dosage of Bromelain:
  – Benefits are seen at doses as low as 160 mg/day
  – Best results occur at doses of 750-1,000 mg/day

http://www.thorne.com/media/alternative_medicine_review/monographs/BromelainMono.pdf
Prairie Naturals Bromelain-Zyme Benefits:

- As a digestive enzyme for protein digestion
- As a systemic enzyme scores of published studies have found that bromelain combats inflammation related to:
  - Physical and sports injuries:
    - Sprains, strains, fractures, bruises, contusions
  - Surgical procedures
  - Various forms of arthritis
  - Burns
  - Infections including:
    - Sinusitis
    - Bronchitis
    - Pneumonia
    - Urinary tract infections

*(note: supports immune function when taken on an empty stomach)*
Prairie Naturals Bromelain-Zyme Features

- Natural plant-sourced, not animal-sourced
- Contains 3 proteolytic enzymes
- Pleasant-smelling, easier to take
- 25% stronger in Bromelain than previously
- 45% stronger in protein-digesting ability
- 100% pure vegetable capsules
- Contains no GMO ingredients
- Vegan product
What is Enzyme-Force with FibraZyme™?

- POWERFUL: high-quality/potency plant source digestive enzymes
- COMPLETE: provides a full spectrum of protein, carbohydrate & fat

**Protein-digesting Enzymes [covers pH 2-10]**
- Protease (blend of 3) 50,000 HUT
- Papain 50,000 PU
- Bromelain 2400/g DGU 50mg

**Carbohydrate-digesting Enzymes**
- Amylase 11,250 DU
- Glucoamylase 50 AGU
- Alpha-galactosidase 125 GALU
- Lactase 500 ALU
- Invertase (Sucrase) 200 SU
- Phytase 5 FTU

**Fat-digesting Enzymes**
- Lipase (blend of 2) 2,000 FIP
What is Enzyme-Force with FibraZyme™?

• COMPREHENSIVE: contains enzymes not often found together in one formula
• Fibre-digesting Enzymes
  Cellulase 1,200 CU
  Beta Gluconase 25 BGU
  Hemicellulase 30 HCU
  Pectinase 45 AJDU
  Xylanase 300 XU
  Fibrazyme™ enzyme blend 500 MU
• FibraZyme™ is effective for the breakdown of specific fibrous cell walls present in grains, fruits and vegetables
• Enzyme-Force is formulated in V-Caps (vegetable cellulose & purified water), is suitable for vegans & is totally “non-GMO”
Serra-Force: Systemic Enzyme Therapy

- A proteolytic (protein-dissolving) enzyme isolated from the non-pathogenic bacteria (Serratia E15) found in the stomach of the silkworm
- Today, this non-animal source enzyme complex is naturally processed commercially through fermentation on a plant-based medium
- Serra-Force is isolated, then coated in the form of enteric-coated granules, then placed in a vegetable capsule
- Taken internally on an empty stomach, it passes through the stomach unchanged and is efficiently absorbed from the intestine
- Also known as serratia peptidase or serrapeptase
Serra-Force: for Pain & Inflammation & More

- Wide clinical use throughout Europe and Asia as a viable anti-inflammatory alternative to NSAIDs
- No inhibitory effects on prostaglandins, devoid of any serious gastrointestinal side effects
- Has not been shown to cause ulcers and stomach bleeding or liver damage
- Used as: oncolytics (destroys tumour cells), anti-coagulants (stops formation of blood clots), thrombolytics (dissolves blood clots), mucolytics (dissolves mucus), analgesic (pain relief), antipyretic (reduces fever), and also as a "cardiovascular conditioner"

Prairie Naturals Enzyme Family

Digestive Health Aids, Constipation Relief, Anti-Inflammatory Alternatives
RoseMarie Pierce, B.Sc.Pharm, is a holistic pharmacist with more than 40 years experience in both conventional and natural medicine. Currently, she counsels and lectures on holistic health, specializing in hormonal balance and mind/body vitality.

RoseMarie began her interest in natural medicine during her university studies in pharmacy at Dalhousie University. Her enthusiasm for phyto-pharmacy, nutrition, and the use of vitamins and minerals to support the healing of the human body defined her early pharmacy career.

RoseMarie is a highly respected lecturer, writer, and media personality within the natural health industry, and serves in a senior capacity with Prairie Naturals Health Products as a company spokesperson, educator and product formulator. She has a natural ability to present technical information in an easy-to-understand format. RoseMarie acts as a catalyst for individuals who wish to improve their health, experience vitality and realize their potential.

For more information on this popular writer, lecturer, hormonal health specialist, and the Morning Rise & Shine drink - visit her website at www.holistic-pharmacist.com