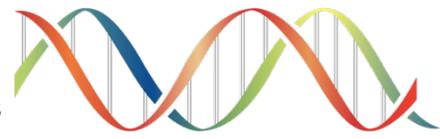




**Community BioRefineries**  
The Epitome of American Innovation



By Scott Hewitt CEO and Vincent R. James Ph.D. CTO  
Community BioRefineries,

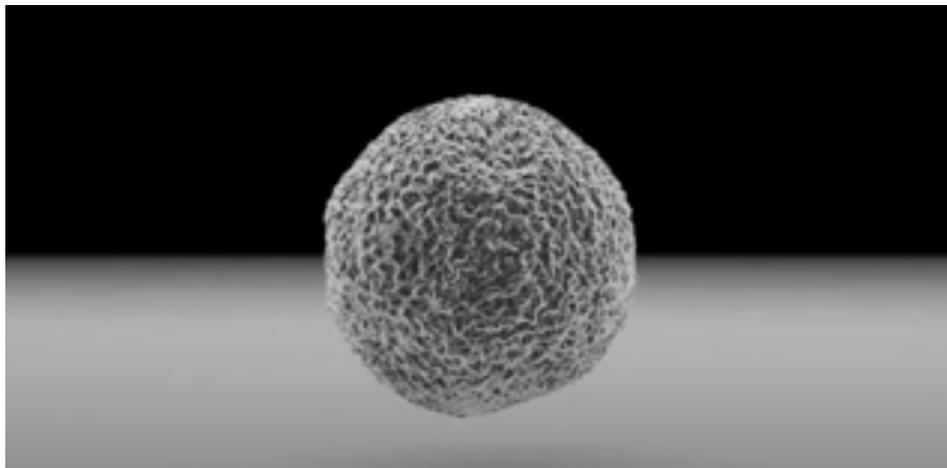
## Plant Protein Isolate: From K-Rations to a Heart-Friendly Nutritional Revolution

*"The future of nutrition lies not in what we take away, but in what we can create from the abundance around us."*

~Dr. Ancel Keys, 1950

Picture a soldier in 1942, crouched in a foxhole as shells scream overhead. His hands tremble—not from fear, but hunger—until he rips open a K-Ration. Inside, a compact miracle: biscuits, chocolate, and protein, engineered by Dr. Ancel Keys to fuel the fight for liberty. Keys, a physiologist with a mind like a steel trap, turned scarcity into strength, powering victories from Normandy to the Pacific. By 1950, he cast a bolder vision—local crops like corn as a peacetime lifeline, nourishing nations sustainably ([Keys, 1950](#)). Today, that vision explodes into reality in Iowa's rolling fields.

[Community BioRefineries \(CBR\)](#), wielding exclusive rights to the "[Heart-Friendly](#)" non-GMO corn hybrid by USDA's Dr. Susan Duvick and Dr. Linda Pollak, unveils [Corn Protein Isolate \(CPI\)](#) - a tasteless, odorless titan exceeding 90% purity, delivering all nine essential amino acids when blended with Hemp Protein Isolate (HPI) or Soy Protein Isolate (SPI). Achieved via a co-patented process with the USDA, this isn't just protein—it's a \$15 billion revolution, slashing chronic disease, ousting imports, and creating 600 good-paying jobs in the local community, all primed to ignite Secretary Robert F. Kennedy Jr.'s "Make America Healthy Again" (MAHA) mission.



### Keys' Legacy Reborn: The Science of a Breakthrough

Keys didn't just feed soldiers—he redefined what nutrition could achieve. His K-Rations, cramming 3,000 calories into a pocket, were a testament to ingenuity under pressure. Now, CBR has picked up that torch, harnessing the "Heart-Friendly" corn -a non-GMO hybrid exclusively theirs, born from USDA-ARS geneticist Dr. Linda Pollak, plant biologist Dr. Susan Duvick. Infused with *Tripsacum* (prairie grass) genes, this corn boasts 60–70% oleic acid (vs. 20–30% in standard varieties) USDA-ARS, 2003. CBR's USDA-co-patented aqueous process—no heat, no chemicals—extracts 90+ pounds of protein per 100-pound batch, locking in antioxidants and bio-actives USDA-ARS, 2022.

Here's the nutritional arsenal:

- Heart-Friendly Corn (CPI):**
  - Protein:* 8–12% raw, 90%+ isolated
  - BCAAs (per 100 lb):* Leucine (0.42–0.49 lb), Isoleucine (0.12–0.14 lb), Valine (0.14–0.16 lb)
  - Superpower:* Oleic acid (0.30–0.35 lb/100 lb) cuts LDL cholesterol, stabilizes oils—a heart-health dynamo ([White et al., 2003](#)).
  - The basis for this new corn hybrid is an ancient strain of maize (corn) brought back from Central America by [Dr. Norman Borlaug](#). The original maize was the principal source of nourishment for the Mayan civilization.
- NOTE 1:** While Heart Healthy corn naturally has all the necessary BCAAs, #2 dent corn is deficient in Lysine (0.05–0.07 lb vs. RDA 0.07 lb), necessitating blending with other Protein Isolates to elevate its overall nutrition.
- NOTE 2:** A [protein "isolate"](#) is a plant protein containing 90%+ protein purity
- Hemp (HPI):**
  - Protein:* 30–50% raw, 90%+ isolated
  - BCAAs (per 100 lb):* Leucine (0.03–0.04 lb), Isoleucine (0.01–0.02 lb), Valine (0.02–0.03 lb)
  - Deficiency:* Low BCAAs, especially leucine (RDA 0.09 lb)
  - Superpower:* Omega-3s (0.005–0.01 lb) tames inflammation ([Tang et al., 2006](#)).
- Soy (SPI):**
  - Protein:* 35–40% raw, 92–95% isolated
  - BCAAs (per 100 lb):* Leucine (0.09–0.11 lb), Isoleucine (0.04–0.05 lb), Valine (0.05–0.06 lb)
  - Deficiency:* Methionine + cystine (0.04–0.05 lb vs. RDA 0.03 lb)—slight gap
  - Superpower:* Isoflavones (0.01–0.02 lb) slash LDL 10–20% ([Newgard et al., 2009](#)).

**NOTE:** "BCAA" is Branch Chain Amino Acids; "RDA" is Required Daily Allowance

**Chart 1: Essential Amino Acids (lb per serving)**

Amino Acid	CPI (Corn)	HPI (Hemp)	SPI (Soy)	RDA (154 lb adult)
Histidine	0.09–0.11	0.07–0.09	0.09–0.11	0.02
Isoleucine (BCAA)	0.12–0.14	0.01–0.02	0.04–0.05	0.04
Leucine (BCAA)	0.42–0.49	0.03–0.04	0.09–0.11	0.09
Lysine	0.05–0.07	0.01–0.02	0.21–0.23	0.07
Methionine + Cystine	0.11–0.12	0.03–0.04	0.04–0.05	0.03
Phenyl + Tyr	0.28–0.32	0.05–0.07	0.18–0.19	0.06
Threonine	0.11–0.12	0.03–0.04	0.12–0.14	0.03
Tryptophan	0.02–0.03	0.02–0.03	0.04–0.04	0.01
Valine (BCAA)	0.14–0.16	0.02–0.03	0.05–0.06	0.06

**The Perfect Blend:** With exclusive rights to "Heart-Friendly" corn, CBR crafts a nutritional masterpiece—50% CPI (leucine + oleic acid), 20% HPI (diversity), 30% SPI (lysine)—delivering 0.07–0.08 lb lysine, 0.23–0.27 lb leucine, exceeding RDAs ([Boye et al., 2012](#)). This is Keys' vision: a whole food from abundance, not scarcity.

### The Heart-Friendly Breakthrough: A Scientific Marvel

The "Heart-Friendly" corn isn't a happy accident—it's a labor of love spanning decades. Drs. Duvick and Pollak traced corn's evolution to 1970s University of Illinois studies, blending Corn Belt inbreds with *Tripsacum*'s wild resilience—cold-proof, drought-hardy, and oleic acid-rich. Their 1999 patent (No. 09/285,368) locked in a hybrid with 6.5% saturated fats (vs. 13% in commercial corn), tilting the balance to monounsaturated glory USDA-ARS, 2003. CBR's exclusive rights transform this into CPI, a nutritional titan.

Oleic acid mirrors olive oil's heart-saving grace. It resists oxidation, extends shelf-life without rancidity while cutting LDL 10–15% without touching HDL. For Food Scientists, this is a goldmine: a protein isolate that doubles as a cardiovascular shield, ripe for trials on insulin sensitivity, muscle retention, and heart disease prevention. It's a scalable revolution—Keys' wartime grit meets peacetime promise.

### Blending Perfection: A Nutritional Symphony

#2 Dent Corn's lysine lag, hemp's BCAA weakness, and soy's methionine dip could falter alone - but CBR conducts a symphony. Their "Perfect Blend" harmonizes:

- **50% CPI:** Leucine (0.21–0.25 lb of the 0.23–0.27 lb total) fires up mTOR for muscle growth—crucial for seniors ([Phillips et al., 2016](#)). Oleic acid shields hearts, a perk meat can't touch.
- **30% SPI:** Lysine (0.06–0.07 lb of 0.07–0.08 lb) bolsters immunity and collagen, with isoflavones fortifying arteries.
- **20% HPI:** Omega-3s and trace nutrients smooth the blend's hypoallergenic edge—diversity in every bite.

**NOTE:** 'mTOR' is a protein unique to humans which control various cellular processes.

**Chart 2: Perfect Blend Profile (50% CPI, 20% HPI, 30% SPI)**

Component	Amount	RDA (154 lb adult)	Benefit
Protein	90–92%	-	Whole food source
Leucine (BCAA)	0.23–0.27%	0.09	Muscle growth
Lysine	0.07–0.08%	0.07	Immunity, collagen
Oleic Acid	0.30–0.35%	-	Heart health, stability
Isoflavones	0.01–0.02%	-	10–20% LDL reduction
Omega-3s	0.005–0.01%	-	Anti-inflammatory

Third-party labs confirm: this blend meets FAO/WHO amino acid standards, a complete protein from Heart Healthy Corn ([2024](#)). It's a nutritional multitool—muscle-building, heart-smart, inflammation-fighting—Keys' dream in every scoop.

**Economic Powerhouse: 600 Jobs and Beyond**

CBR's exclusive "Heart-Friendly" corn doesn't just feed bodies—it fuels economies. Producing 50,000 tons of CPI requires 20 million bushels (133,000 acres), pumping \$120 million into rural coffers at \$6/bushel. Scale to 200,000 tons, and it's \$480 million, lifting per-acre income from \$900 to \$1,350. But the real spark? *Jobs*.

**Jobs.** A single standard Community BioRefinery facility processing 20 million bushels annually -yielding 50,000 tons of CPI - employs 600 workers at up to \$70,000 per employee, totaling \$30–\$42 million per year in wages. This powerhouse facility in the local community creates 600 well-paying jobs, injecting \$30–\$42 million yearly into the local communities. With 10–20 such plants, that's 6,000–12,000 jobs and up to \$500 million in wages ([Renewable Fuels Association, 2023](#)).

CPI displaces \$150–\$190 million in casein# imports annually. CPI will easily undercut imported casein (\$4–\$5/lb), especially if MAGA tariffs could hike casein to \$6.25/lb. Add to their cost for users of these proteins of the added expense of “masking agents” necessary to cover up the nasty smells and taste of these rotting proteins, and the use of CPI becomes a huge savings for food formulators. For the local community, 600 jobs per facility means stability - mechanics, operators, and logistics experts thriving where farming communities once faded.

# 'Casein' is sodium/calcium caseinate, commonly called 'milk protein'. Currently, imported caseins arrive already damaged due to the methods used to extract them from the raw milk.

**Environmental Mastery: A Green Revolution**

CBR's vision is as green as its cornfields. Hemp rotation slashes pesticide use (1.2 billion lb/year industry-wide), boosts soil nitrogen by 10%, and drops emissions from casein's 33–44 lb CO2e/ton to CPI's 11–22 lb—saving 550,000–825,000 tons at 50,000 tons ([co2evolve](#)) Co-products—bio-butanol (5 lb/100 lb) and bioplastics (3 lb)—ensure zero waste, a circular economy Keys would champion. Locally, those 600 jobs tie to a cleaner future—less trucking, more homegrown pride.

**MAHA's Vanguard: Kennedy's Heart-Friendly Ally**

Secretary Kennedy, your MAHA—facing 42% obesity, 34 million diabetics, and Big Food's \$20 billion shadow—finds its warrior in CPI ([Milken Institute, 2023](#)). The March 2025 clash with PepsiCo and General Mills demanded purity—here's the strike:

- **Health Wins:**
  - *PepsiCo Shift:* 5,000 tons in Cheetos saves \$10M, cuts calories 20%, bans Red 40—heart-friendly snacking.
  - *School Boost:* 10,000 tons for 5 million kids drops obesity 2–5%, saves \$5–\$10B.

- **Economic Surge:**
  - *Local Lift:* 600 jobs and \$30–\$42M in wages—MAHA’s rural heartbeat.
  - *Trade Edge:* \$80–\$100M saved via tariffs—nationalist grit.
- **Green Gains:**
  - *Carbon Slash:* 550,000–825,000 tons CO2e saved—MAHA’s eco-pledge.
  - *Soil Renewal:* Hemp heals land, cutting chemical runoff.

By 2029, a \$15B industry could cut healthcare costs by \$50B and boost GDP by \$20B, with 600 local jobs per CBR facility as MAHA’s proof-of-concept.

### Scientific Frontier: Why CPI Shines

Nutritional scientists, CPI is your canvas. Leucine rivals whey, firing mTOR for muscle preservation—vital for aging ([Phillips et al., 2016](#)). Oleic acid’s LDL drop echoes Mediterranean diets, with stability trumping polyunsaturated oils’ rancidity. SPI’s isoflavones and HPI’s omega-3s tackle heart and inflammation—a triple threat. Trials could explore:

- *Diabetes:* Oleic acid’s insulin boost?
- *Cardiology:* LDL cuts with CPI diets?
- *Longevity:* Leucine’s sarcopenia shield?

CPI is a scalable lab star—cleaner than meat, cheaper than casein. NIH awaits.

### Vision 2035: A Nutritional Empire

By 2035, CPI graces every table—\$20B industry, \$200–\$400M in exports, 25,000 added jobs nationwide, and \$1.5B in wages. Healthcare savings hit \$50B as obesity and diabetes fade. Bio-butanol fuels jets, bioplastics ditch petroleum -all from CBR’s "Heart-Friendly" corn, exclusively theirs, and other key crops. Locally, those 600 jobs anchor thriving towns—Keys’ abundance, realized.

### Your Call to Arms

- **Scientists:**
  - Grab CPI samples at [Community BioRefineries](#).
  - Pitch NIH trials – high oleic acid’s promise beckons.
  - Pitch medical trials for Protein Isolates ability to defeat muscle wasting diseases.
- **Kennedy’s Team:**
  - Fast-track GRAS—crown CPI MAHA’s star.
  - Fund a \$100M pilot; scale up; to 5 plants, 3,000 jobs, healthier hearts by 2029.

From Keys’ K-Rations to CBR’s 600-job revolution, this is America’s nutritional dawn. Act—history’s watching.

For more in-depth information please see our website. [Community BioRefineries](#)

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