



Poultry Protein: THE COMPLETE PACKAGE

Making the Case for Meat Protein Ingredients

The complete protein consumers love—chicken—is now available in a ready-to-eat powder form. Poultry ingredient experts at International Dehydrated Foods, Inc. (IDF™) have used their chicken meat powder experience and innovation to develop ARC™ 70, a concentrated chicken protein powder that’s 70% protein, and are currently developing ARC™ 90, a protein ingredient with a 90% target protein level.

COMPLETE PROTEIN FROM A WHOLE FOOD

With mainstream protein ingredients like soy and whey readily available, it’s reasonable to wonder, “Why not chicken?” In addition to the demand for protein ingredients that are free from common allergens, there’s also growing demand among consumers for real, whole food.

“Our chicken ingredients are just that—chicken, produced from USDA chicken raw materials. Chicken is a naturally concentrated source of protein, and IDF further removes fat and moisture to produce shelf stable ARC™ chicken protein powders,” said Stephanie Lynch, Vice President of IDF Technology, Sales, and Marketing. “We asked ourselves, ‘How can IDF

make America’s #1 protein more convenient and readily available while maintaining the quality of the amino acids needed to support healthy muscles?’ The solution was in our gentle cook and spray dry process, which does just that!”

As consumers seek both health and convenience from foods and supplements, concentrated chicken protein powder allows for the creation of snacks, bars, breads, powder shake mixes, ready meals, and more. With the global appeal of one of the most popular proteins, concentrated chicken protein powder allows for the integration of whole food ingredients in a range of convenient, ready-to-eat foods.

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Free of common allergens

Low in sodium

Highly bioavailable

Complete amino acid profile

Supports healthy muscles

Bland to slight savory flavor

Clean label

RTE powder form
.....

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MEAT VS. PLANT

Although their powder forms are similar in appearance (ARC™ powder ingredients are light tan in color), meat and plant proteins differ greatly in their makeup and digestibility. Amino acids, the necessary building blocks for healthy muscles, are a primary difference between meat and plant proteins. Most plant proteins, like pea, lack the necessary balance of amino acids



and require greater usage or consumption to deliver the same results that meat protein can offer. ARC™ Concentrated Chicken Protein is also naturally rich in branched-chain amino acids (BCAAs), which are key in muscle energy and recovery, and are a readily available source of energy during exercise.

While soy and whey proteins have largely complemented and fueled sweet flavor applications and sports nutrition, ARC™ 70 Concentrated Chicken Protein has a neutral flavor, with a slight umami quality that can fuel new innovative savory applications in foods and sports nutrition. The umami flavor can be

easily masked and even complement non-savory applications. In supplements, like protein shakes, the neutral flavor of ARC™ ingredients allows for a variety of flavor offerings beyond expected savory profiles. ARC™70 has been successfully used in the formulation of savory soup as well as chocolate protein shakes, bringing high quality protein to applications with a variety of flavor profiles.

HIGH QUALITY AND DIGESTIBILITY

In addition to protein type and content, protein efficiency is a differentiating factor among plant and meat proteins. In a recent study, ARC™ 70 Concentrated Chicken Protein delivered a protein efficiency ratio (PER) of 4.787, statistically higher than the commercially available soy protein isolate to which it was compared, which delivered a PER of 2.886 in the same university study by Kansas State.

The quality of ARC™ Concentrated Chicken Protein over other protein ingredients is also supported by its protein digestibility corrected amino acid score (PDCAAS). When PDCAAS scores were compared among pea protein isolate (.8042) and ARC™ 70 Concentrated Chicken Protein (1.0), ARC™ 70 earned the highest possible score.

TREATMENT MEAN VALUES from chick protein efficiency growth assay

ITEM	PDCAAS
PEA PROTEIN ISOLATE	0.8042
ARC™ 70 CONCENTRATED CHICKEN PROTEIN	1.00

CONSUMER APPEAL, COMPATIBLE WITH ALLERGEN-FREE

As consumers continue to seek clean label foods and beverages, concentrated chicken protein provides a solution for a simple, familiar ingredient legend. With growing awareness of allergen issues, formulators of soy-free, dairy-free, and gluten-free applications can turn to chicken protein ingredients, which are free of common allergens, provide a naturally complete source of protein, and can contribute to a cleaner and more appealing label. Compared to a major brand of extruded snack puffs, a trial formulation made with ARC™ 70 delivers more than double the protein and less than half the fat than the puffs that are currently on the market.



SERVING SIZE: 28g	IDF™ PUFFS	BRAND NAME
CALORIES	120	150
TOTAL FAT	4g	9g
SATURATED FAT	1g	1.5g
CHOLESTEROL	25mg	0g
SODIUM	250mg	290mg
TOTAL CARBOHYDRATE	17g	16g
DIETARY FIBER	1g	<1g
SUGARS	1g	1g
PROTEIN	5g	2g
CALCIUM	12% DV	2% DV
IRON	4% DV	0% DV



SERVING SIZE: 8oz	IDF™ VEGETABLE CHOWDER	BRAND NAME
CALORIES	230	189
TOTAL FAT	17g	10.8g
SATURATED FAT	9g	3.2g
CHOLESTEROL	55mg	14mg
SODIUM	550mg	774mg
TOTAL CARBOHYDRATE	12g	18g
DIETARY FIBER	2g	1.8g
SUGARS	3g	1.8g
PROTEIN	8g	4.5g
VITAMIN A	35% DV	2% DV
IRON	4% DV	2% DV
CALCIUM	6% DV	5% DV
VITAMIN C	60% DV	0% DV

A familiar source of protein that can be used in a range of applications for children, adults, and seniors, ARC™ 70 Concentrated Chicken Protein Powder is a versatile protein for family-friendly foods, kids snacks, supplements, and functional foods, and it offers the opportunity for innovative new forms of savory protein supplement bars and shakes. Savory snacks and supplements can offer a welcome change to the sweet varieties currently available, and ARC™ 70 has been used to boost the protein content of a vegetable chowder. Compared to a major brand name vegetable chowder, the trial formulation

made with concentrated chicken protein offers 44% more protein and, in part due to its umami flavor, 29% less sodium.

FORMULATION-FRIENDLY

While soy and whey isolates can have strong beany or bitter notes, chicken meat proteins contribute an appealing umami flavor profile for savory snacks. For those applications in which umami flavor is not desired, the natural umami flavor notes can be easily masked, as they are quite complementary and not dominating. In the instance of a seasoned butter cracker, relative to a current brand name product, a formulation using ARCTM 70 offers more than double the protein, reduced calories and fat, and added iron.

As protein remains in high demand in consumer applications, ARCTM Concentrated Chicken Protein Powder provides a natural, clean label option that is free of common allergens. With an on-trend, savory umami flavor profile and high digestibility scores, chicken protein delivers the qualities consumers love in chicken within a formulation-friendly powder ingredient that can support innovative new products that contribute to both good nutrition and a positive sensory experience.



SERVING SIZE: 30g	IDF™ SEASONED CRACKERS	BRAND NAME
CALORIES	130	150
TOTAL FAT	5g	7.5g
SATURATED FAT	2g	2g
CHOLESTEROL	10mg	0mg
SODIUM	470mg	205mg
TOTAL CARBOHYDRATE	18g	28g
DIETARY FIBER	1g	0g
SUGARS	0g	2g
PROTEIN	5g	2g
VITAMIN A	2% DV	0% DV
IRON	6% DV	0% DV
CALCIUM	0% DV	0% DV

For more information on IDF® ARCTM Concentrated Chicken Protein powders, including its 90% protein ingredient, ARCTM 90, which is currently in development, visit IDF.com or call **+1 417 881 7820**.