



Unit 1

PROTEIN AND BREAD

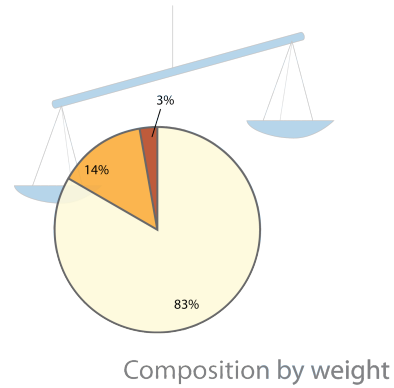
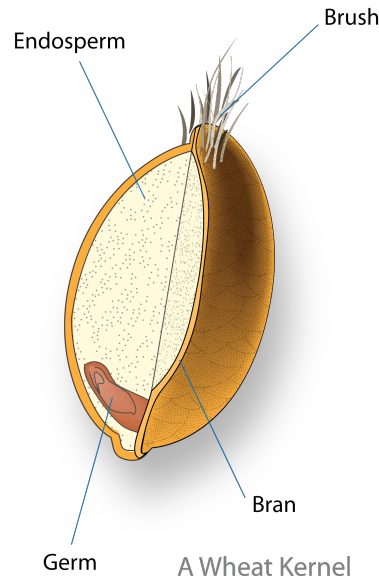


Hard and Soft Wheat

Differences in wheat type, growing climate and soil conditions impact the amount of protein present within the wheat grains.

Spring-sown wheat varieties tend to have higher protein content and are often described as **'hard' flours**. A **'soft' flour** is usually obtained from **winter wheat**, which produces flours with a **protein content** of less than 10%.





	Carb./g	Protein/g	Fat/g	Fiber/g	Iron (% daily req.)	Others
Bran	63	16	3	43	59	vitamin Bs
Endosperm	79	7	0	4	7	
Germ	52	23	10	14	35	vitamin Bs omega-3/6 lipids

Nutritional Value (per 100g)



Different flours for different goals in baking

Type of flour	Grams of protein per cup	Percent protein
Semolina (Durum wheat)	21g	13%
Wheat flours, bread, unenriched	16g	12%
Wheat flour, white, all-purpose	13g	10%
Wheat flour, white, cake, enriched	11g	8%

Over 75% of the protein in wheat flour is comprised of two types of proteins: glutenin and gliadin. When mixed with water and mechanically worked or mixed, these two proteins form a dense elastic matrix known as *gluten*