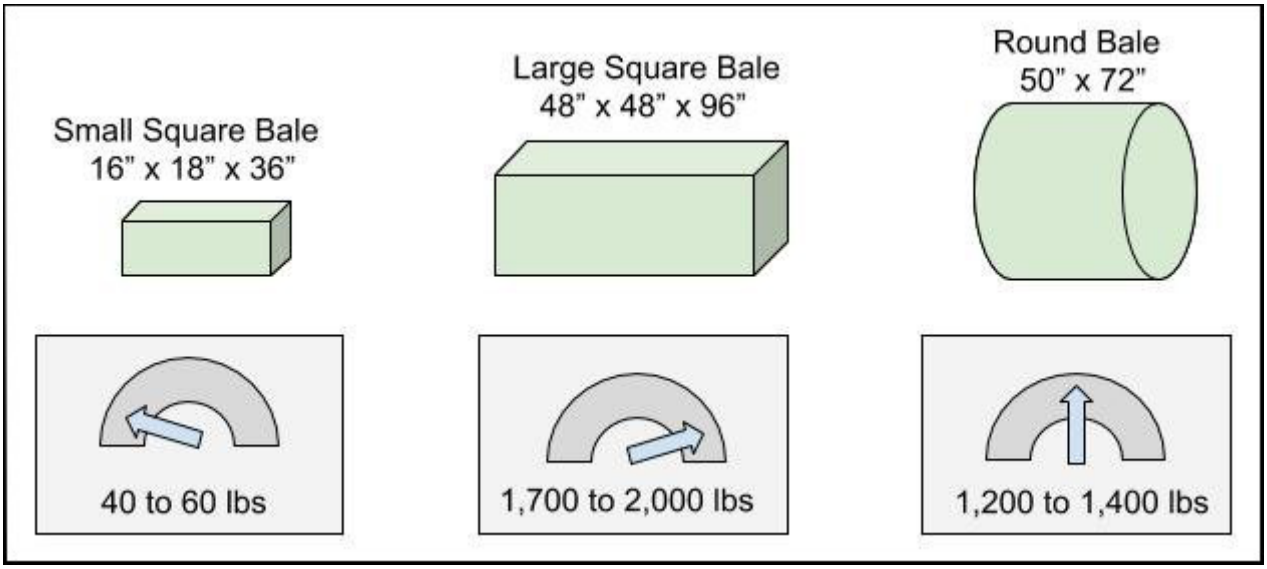
How Much Does a Bale of Hay Weigh?

By Hayforks.com-Team



- Small 2 string square bale **14" x 18" x 36" 40 lbs to 60 lbs** (18 kg to 27 kg).
- Small 3 wire square bale **16" x 22" x 44" 100 lbs to 120 lbs** (45 kg to 54 kg).
- Large square bale **36" x 48" x 96" 1200 lbs to 2,000 lbs** (544 kg to 907 kg).
- Round bale **48" wide x 60" dia. 600 lbs to 1,200 lbs** (272 kg to 544 kg).

Hay bales can weigh from 40 lbs to 2,000 lbs (18 kg to 907 kg). They come in two basic shapes, round and square. Round hay bales are usually quite large and weigh from 600 to 1,600 lbs (272 kg to 544 kg). Square hay bales come in two size groups, small and large. Most small square bales can be handled manually. Large square hay bales and round hay bales require bale handling equipment such as a tractor with a bale lift.

Later on in this article we will discuss the size and weight details of different types and of hay bales. We will also look at the factors that affect hay bale weight, such as density, moisture content and hay species.

Topics covered in this hay bale weight guide:

How Much Does a Round Bale of Hay Weigh?

A 4'x4' round bale of legumes like alfalfa weighs about 600 lbs (272 kg). A 4'x5' bale weighs 950 lbs (430 kg). A 5'x5' bale weighs 1,200 lbs (540 kg) and a 5'x6' bale weighs 1,500 lbs (680 kg). Grass bales, like timothy, weigh 20% less than alfalfa bales. Moisture content can affect bale weight by as much as 25 percent.

Round Bale Weight Chart - Pounds and Kilograms			
Length Width	Height Diameter	Weight lbs.	Weight kg
4'	4'	600	270
4'	5'	950	430
5'	5'	1200	540
5'	6'	1500	680

Round bales, also called rolls of hay, started showing up in fields about 40 years ago. Their handling and transport advantages led to them becoming the most popular bales today. Round bales are usually handled with a tractor mounted front loader having a special spike attachment. Short distance transport is done with special wagons and trailers.

Long distance transport of round bales presents some special problems. Being round they are difficult to secure and there have been multiple accidents caused by bales falling from trucks. It is also difficult to build a secure load with enough weight to keep the shipping cost reasonable.

Square Hay Bale Weights and Sizes

Square hay bales come in two major size groups, small and large. Small square bales have been around the longest, over 100 years. They are popular with horse owners, small animal breeders, landscapers, and anywhere that manual handling is required or where only smaller quantities of hay are needed. High density small square bales are now being produced to reduce storage and shipping costs.

Small Square Hay Bales - 3 Types: 2 String, 3 Wire and High Density

Two string square hay bales:

- Weight from 40 to 60 lbs.
- Size: 18” wide x 14” high x 36” long.

Two string bales were the most common hay bales for many years. Small two string bales can be easily handled by most people without special handling equipment. Bales of this type are often available in small quantities at local farm stores and building supply stores.

Three wire square hay bales:

- Weight from 80 to 120 lbs.
- Size: 22” wide x 16” high x 44” long

Three wire bales are denser, a bit bigger and weigh about twice as much as two string bales. They are often preferred when the bale is going to be shipped long distances, since their density lowers shipping costs and makes it easier to build a secure load. Although heavier than two string bales, they can be handled by one or two people without special equipment.

High density square hay bales:

- Weight: 2 to 3 times the weight of the same size standard bale
- Size:: 18” x 14” x 36” -- weight: 120 to 180 lbs.

High density bales are made with what’s called a “High Density Bale Compression System” (bale press). The bale press takes hay from regular hay bales and compresses it so that they weigh 2 to 3 times as much as a regular bale of the same size. This is a big advantage for shipping and storage.

Large Square Hay Bales

Weight: from 1,000 to 2,200 lbs.
Size: 3 ft. x 4 ft. x 8 ft.

Large square bales have been around for about 40 years. They have some distinct advantages over small square bales and round bales, are ideal for shipping and are easy to stack in storage areas.

The ability to be handled by forklifts and front end loaders is another key feature. These large bales have replaced their smaller counterparts on many farms and hay growing operations.

How Plant Species Affects Hay Bale Weight

- Alfalfa bales - 1,000 lbs.
- Timothy bales - 850 lbs

Alfalfa bales are about 15% heavier than the same size bale of timothy.

Hay is produced from many different plant species. The two main plant types are grasses and legumes. Legume bales are normally about 15% heavier than grasses for the same size bale, all other factors being equal.

A 4 ft wide x 5 ft high round legume hay bale may weigh 1,000 lbs. The same bale made with grasses would weigh 850 lbs.

How Bale Density Affects Hay Bale Weight

Typical hay bale density is 9 to 12 lbs per cubic foot.

Hay bale density is determined by how much the baler compresses the hay. Bale density is measured in pounds per cubic foot.

How Moisture Content Affects Hay Bale Weight

- Fresh baled hay: 18% to 20% moisture by weight.
- Stabilized hay: 8% to 9% moisture by weight.

Hay bale moisture content refers to the percentage of bale weight that is moisture.

Here's an example. You have a hay bale that weighs 100 lb. You put it in a drying oven to remove all the moisture. The bale now weight 80 lbs. The bale had 20% moisture content.

Formula:
weight before drying - weight after drying / weight before drying = moisture content percentage
(100 lbs - 80 lbs) = 20 lbs
(20 lbs / 100 lbs) = 20%

Most hay bales stabilize at about 8% to 9% moisture content. Fresh baled hay is usually around 18% to 20%. So for every 2,000 lbs (ton) of freshly baled hay you buy you’re losing 200 lbs when compared to moisture stabilized hay.

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