

# 2019 Harvest Report

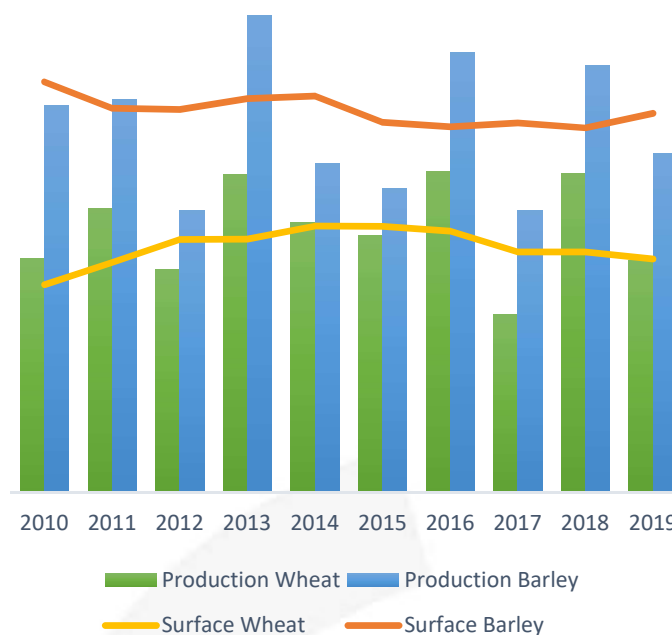
Spanish barley and wheat

Our commitment to offer the best nutritional solutions to our animals, drives us to update our knowledge daily. Every year, our technical department develops a thorough study about the nutritional value of the new harvest cereals, depending on each area of Spain. With this new data, our technical team will be able to design specific solutions for every farm, at the most profitable way; that ensure the best animal health and welfare.

The autumn-winter grain harvest of 2019 in Spain has been lower than last year (-26,4%), especially oats and durum wheat (MAPAMA, 2019). It should be noted that the previous harvest was exceptionally high in some regions.

With an amount of cultivated area closed to the average of the last 10 years (- 4.74% wheat and -0,64% barley), the production has been lower to the average of this period (-11.97% in the case of wheat and -7,42% in the case of barley), mainly due to a decrease in yield per hectare (-7,57% wheat and - 6,82% barley).

In some regions, like Castilla y León, which produce more than 30% of total Spanish grains, the production has decreased by more than 25%.



## Average nutritional values

Table 1.

HARVEST	BARLEY (n = 310)				WHEAT (n = 198)			
	2016	2017	2018	2019	2016	2017	2018	2019
Moisture (%)	9,4	9,3	9,8	<b>9,3</b>	9,8	10,0	10,2	<b>9,7</b>
Protein crude (%)	10,3	12,3	10,3	<b>11,3</b>	11,5	13,8	11,8	<b>12,5</b>
Fibre crude (%)	4,9	5,2	4,9	<b>5,2</b>	2,9	3,2	3,1	<b>3,1</b>
Starch (%)	52,4	50,7	53,0	<b>53,6</b>	60,6	58,8	60,5	<b>59,1</b>
Specific weight (Kg/hL)	67,3	65,7	66,3	<b>64,1</b>	75,9	75,1	76,8	<b>75,1</b>

The first table shows the evolution of the nutritional parameters of the last 4 harvests grains. The samples have been chosen by the Nutega technical team and analysed by our laboratory. These differences force us to modify the values of the nutritional matrix and optimize the calculations of the different nutrients.

Table 2.

BARLEY						
Protein interval	Crude protein	Moisture	Crude Fiber	Starch	Specific weight	% samples
<8,5	7,9	9,71	5,54	54,36	63,2	2,58
8,5 – 9,5	9,07	9,69	5,16	55,59	64,83	11,61
9,5 – 10,5	10,07	9,68	5,33	54,24	64,84	17,74
10,5 – 11,5	11,03	9,6	5,24	53,88	63,76	23,87
11,5 – 12,5	12,03	8,87	5,1	53,35	63,7	23,55
12,5 – 13,5	13,07	8,91	5,13	52,06	63,7	12,58
13,5 – 14,5	13,94	8,8	5,03	51,21	62,87	3,87
≥ 14,5	15,57	8,44	5,05	51,29	65,52	4,19

Furthermore, samples have been classified by the crude protein level. Each group represents samples with similar nutritional values, which are presented in tables 2 (barley) and 3 (wheat).

Regarding the barley, the largest number of samples are found in the groups between 9,5 – 12,5 of crude protein (65,2%). Whereas respecting the wheat, the most common samples are between 11 -14% of crude protein (64,1%).

Table 3.

WHEAT						
Protein interval	Crude protein	Moisture	Crude Fiber	Starch	Specific weight	% samples
<10	9,52	10,73	3,38	60,07	72,98	6,06
10 – 11	10,59	10	3,13	60,33	74,02	15,15
11 – 12	11,49	10,05	3,17	59,54	74,83	17,68
12 – 13	12,54	9,8	3,03	58,7	76,15	26,76
13 – 14	13,43	9,65	3,09	58,52	74,38	19,7
>14	15,34	8,47	3,15	58,2	76,28	14,65

## Conclusions

- We found a reduction in the production of all cereals compared to the 2018 harvest (which was extraordinarily good one). If we compare this year's data with the average of the previous ones, the reduction is not so dramatic.
- Both barley and wheat have higher protein levels than in the last harvest.
- There is a great variability between the different samples of grain, which makes necessary a continuous update of the nutritional matrices.
- All the technical resources of Nutega are at your disposal to optimize a new nutritional program adapted to the new grains.