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Rainy Spring Boosts Grain Yields in Spain

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Grain and Feed
Oilseeds and Products

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Report Highlights:
Dry weather conditions throughout the winter and mild winter and spring temperatures, along with abundant spring precipitation have delayed grain crop development in Spain. Spain's total grain production is projected to reach over average levels in **MY2018/19**, with harvest operations starting later than usual. The strong demand by the export-oriented domestic livestock industry ensures the continuation of the steady pace of grain imports, despite the sizeable crop and the ample pasture supplies. Competitively priced U.S. sorghum has helped Spanish feed compounders' in the transition until new domestic crop became available.

General Information

Very wet weather conditions and mild spring temperatures, prevalent throughout most of Peninsular Spain since March 2018, have resulted in providing Spain a sizeable grain crop in both dry and irrigated crop areas. The country's water reservoir levels are at over 70 percent of its capacity, well above the levels registered in the same period a year earlier. The harvest operations are being carried out with over three weeks of delay. A number of competitively priced U.S. sorghum vessels, along with ample pasture availability and the steady pace of other feed grain imports **MY2017/18**, is helping Spanish feed compounders' in the transition until new domestic crop becomes available.

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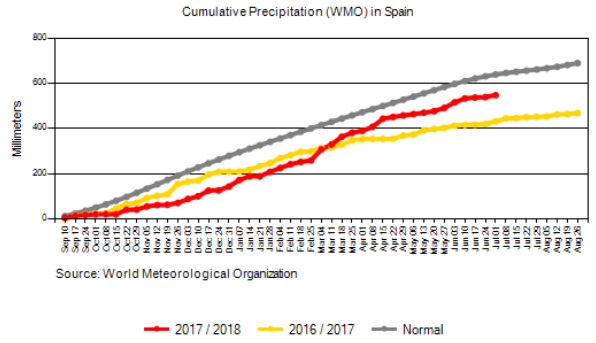
Abbreviations used in this report

EU European Union
ESYRCE: National Survey on Crop Area and Yields
FAS Foreign Agricultural Service
IPAD International Production Assessment Division
Ha Hectares
MAPA: Ministry of Agriculture, Fisheries and Food.
MY Marketing Year
MT Metric Ton (1,000 kg)
MMT Million Metric Tons
MY Marketing Year.
MS EU Member State(s)
TMT Thousand Metric Tons

Precipitation and Temperatures

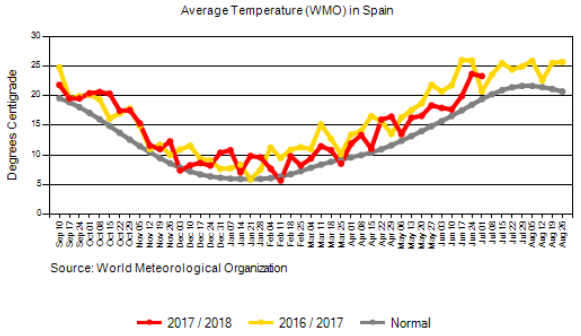
Lack of precipitation in the fall delayed plantings, as soil was too dry (**Graph 1**). Nevertheless, farmers were still able to plant a somewhat reduced area of winter grains. Winter conditions were extremely dry, which posed a limit for **rapeseed** area expansion and triggered poor yield fears among industry actors. **Winter grains** entered spring somewhat behind schedule due to a combination of delayed plantings and limited water availability until March (**Graph 2**).

Graph 1. Cumulative precipitation in Spain



Source: IPAD/FAS/USDA

Graph 2. Average temperature in Spain

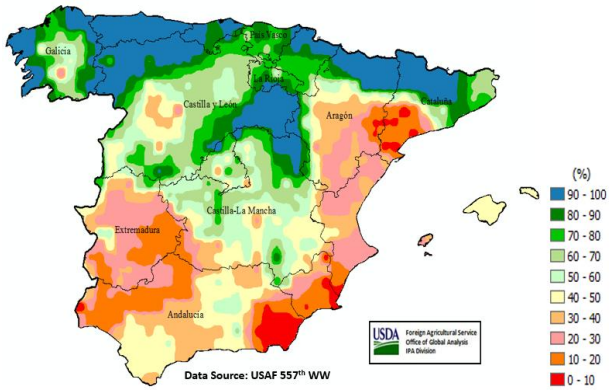


Source: IPAD/FAS/USDA

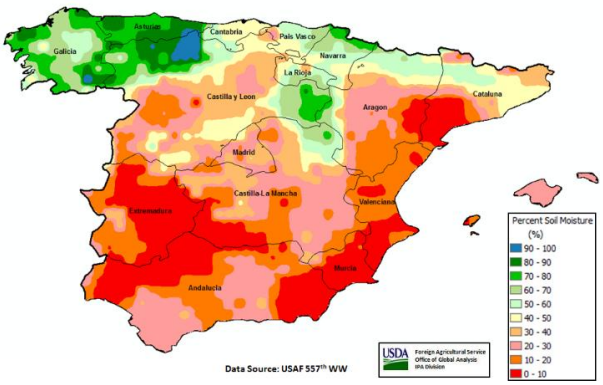
Mild temperatures prevailed until the end of the spring. Abundant precipitations since March restored soil moisture conditions (**Graph 3**), which remained at very good levels until the end of spring. Spring rains also replenished storage water levels, which are currently above 70 percent of total storage capacity, surpassing average and past two years' storage volume (**Graph 4**). Warm early summer temperatures are favoring grains dry down in the field and driving soil moisture levels to more average conditions (**Graph 3**).

Graph 3. Soil Moisture Percentage

June 10, 2018

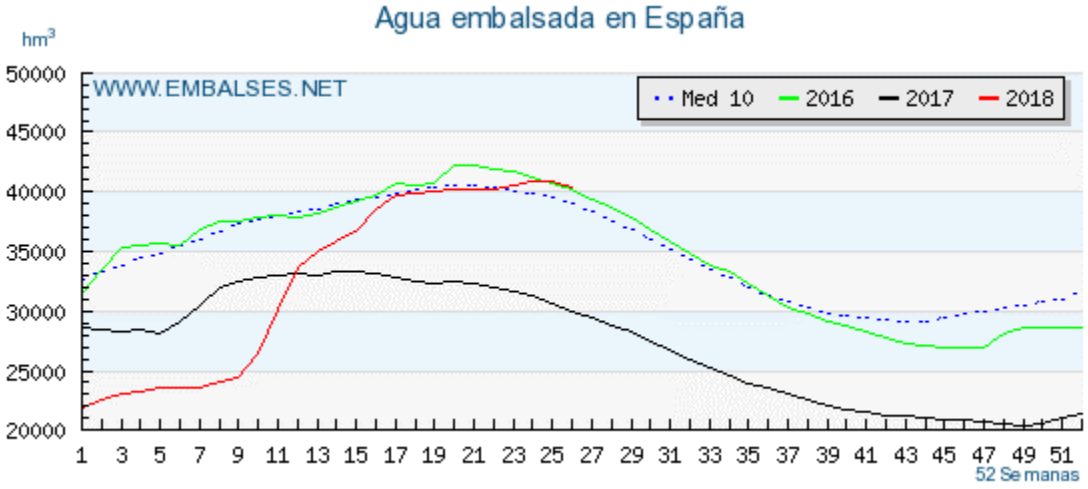


July 2, 2018



Source: IPAD/FAS/USDA

Graph 4. Water Reservoirs



Source: Embalses.net

Planting Decisions

Official statistics show a slight decline of total **winter grain** plantings in **MY2018/19,** confirming the impact of the dry winter condition and the long-term trend of increasing tree crops (new olive grove plantings in Southern Spain and tree nut plantings in the Spanish central plateau) at the expenses of arable crops and/or fallow land. **Barley** plantings remain stable, while the declining **durum** area drives the **total wheat** area down (**Table 1**).

Despite initial fears, current storage water levels allow for no irrigating restrictions this season. However, planting decisions for some crops, in particular those like **tomatoes** for processing that are subject of contracts with industry, were taken prior to the spring rains, when the water supply was not entirely granted. Low storage water levels at the beginning of the year influenced planting decisions, with farmers shifting towards less water-intensive spring crops. In addition, persistent spring rains have delayed planting operations for some spring crops like **sugar beets**, whose area is not projected to grow as much as initially planned.

Persistent spring rains replenishing water reservoirs have contributed to stabilizing Spain's corn area in **MY2018/19** after six consecutive years of continued decline, driven by poor margins, and to a lesser extent, by crop diversification established by European greening requirements. Alternatives to **corn** in irrigated land, depending on the region, include **sugar beets**, **rice**, and **tomatoes** for processing. Less water demanding alternative crops are **sunflower**, **high protein wheat**, **barley** and **dry beans**. The initial investment required for **rice** cultivation, and the unfavorable market conditions, would prevent rice area from growing at the expenses of **corn**.

Table 1. Spain's Winter Grain Area (1,000 Ha)

Crop	MY2014/15	MY2015/16	MY2016/17	MY2017/18	MY2018/19e
Wheat	2,171.6	2,176.4	2,256.8	2,071.6	2,044.3
Soft	1,874.5	1,828.4	1,808.7	1,647.3	1,654.7
Durum	297.1	347.9	448.2	424.3	389.6
Barley	2,792.2	2,598.9	2,563.2	2,597.6	2,583.1
Oats	430.4	483.7	509.8	558.2	542.7
Rye	134.6	146.6	155.3	107.6	119.7
Triticale	195.7	215.6	227.8	190.0	194.5
Total Winter Grains	5,724.5	5,621.1	5,712.90	5,525.00	5,484.2
Corn	421.6	398.3	359.3	332.7	333.4

Source: MAPA. Avance de Superficies and FAS Madrid estimates.

The large majority of the **sunflower** in Spain is grown in non-irrigated land. While spring rains improved subsoil humidity required for this crop's growth, the poor margins reported by the crushing industry and the high volumes of sunflower oil that are being imported prevented the sunflower area from growing. Hence, a stable sunflower planting area is anticipated.

Area planted to **rapeseed** in Spain is still small, however it has registered a continuous increase over the past years, mainly driven by demand for the biodiesel industry in neighboring countries (i.e. Portugal, France). Dry winter conditions may have negated this continued increase for the second consecutive year (**Table 2**).

Table 2. Spain's Oilseeds Area (1,000 Ha)

Crop	MY2014/15	MY2015/16	MY2016/17	MY2017/18	MY2018/19e
Sunflower	783.4	738.9	717.7	716.3	717.6
Rapeseed	43.2	71.0	91.5	91.2	85.6

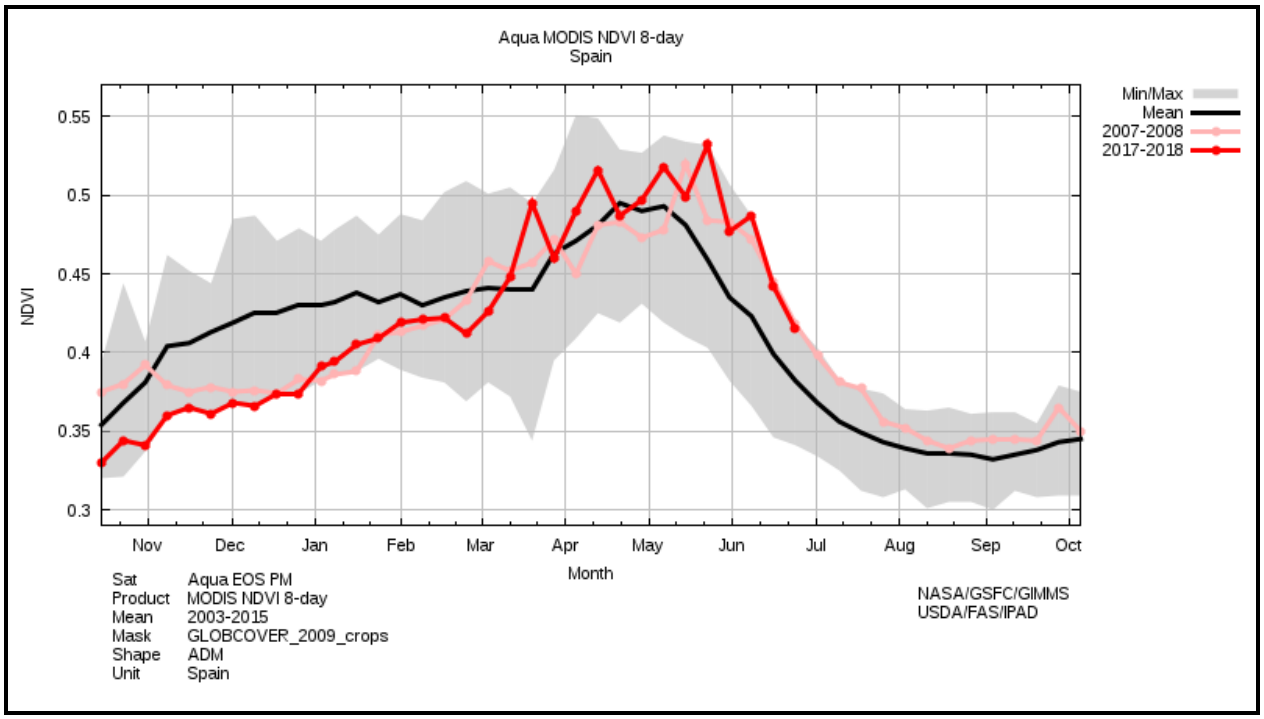
Source: MAPA. Avance de Superficies.

Crop Development

Winter dryness contributed to root development of grains, which set the ground for good yielding potential despite the uneven nascence conditions. Abundant spring precipitation and mild spring temperatures slowed down grain crop development, but at the same time improved prospects for the winter grains output. The plants registered an excellent development and therefore, a large majority of industry sources anticipate well-above average yields.

As shown in **Graph 6** the Normalized Difference Vegetation Index (NDVI) crops went into winter well below average level of biomass, and stayed below average until March, when spring rains arrived. The combination of water availability and mild spring temperatures allowed for a steady recovery of the crop conditions. The vegetative vigor throughout spring remained above average and **MY2017/18** levels, resembling **MY2007/08** vegetation index, when a sizeable grain crop was obtained in Spain.

Graph 6. Spain Vegetation Index on July 2, 2018



Source: IPAD/Foreign Agricultural Service/USDA

Official production statistics by the Ministry of Agriculture, Fisheries and Food, for the **MY2018/19** peg total winter grains production at **16.5 MMT**. Industry sources have released their own estimates for the **MY2018/19** winter grains harvest and are more optimistic than the Ministry (**Table 3**). According to them, the **MY2018/19** crop may amount to between **17** and **20 MMT**. This is between **5** and **8 MMT** up from the bottom low level of **12 MMT** reached in MY2017/18.

Table 3. Spain's Winter Grain Production Estimates (1,000 MT)

Crop	MAPAMA	Cooperatives	ACCOE	ASAJA
Wheat	6,722	8,373	8,270	6,750
Soft	5,624	6,981	6,934	5,500
Durum	1,098	1,392	1,336	1,250
Barley	7,898	9,426	9,948	8,500
Oats	1,097	1,514	1,422	1,750
Rye	273	382	374	
Triticale	521	738	589	
Total Winter Grains	**16,511**	**20,433**	**20,603**	**17,000**

Source: MAPA, Agricultural Cooperatives, ACCOE (Grain Elevators Association) and ASAJA (Young Farmers Union)

Spanish harvesting operations normally start in late May to early June in the southernmost grain growing areas, such as Andalucía, and then move up north. Regardless of the final size of the grain crop, the delay in development, estimated at over three weeks, has resulted in an extended **MY2017/18** season.

As for **corn**, the large majority of it is grown in irrigated conditions and therefore, final yields are expected to remain stable. The somewhat stable corn plantings in **MY2018/19** will also contribute to maintaining the country's total grain production at a high level. Early estimates by Spain's Agricultural Cooperatives Association indicate that the corn harvest could amount to **3.4 MMT**, which would peg Spain's total grain crop at nearly **24 MMT**, just below the record levels achieved in MY2013/14.

While it is still too early in the season to forecast **sunflower** crop production levels, soil moisture should contribute to achieve average production levels. Summer temperatures during crop development and seed fill stage will be critical to determine the final size of the crop.

The large majority of the **rapeseeds** (75 percent) are grown in non-irrigated land, and the crop cycle coincides in time with the grains. While output is anticipated for irrigated **rapeseeds,** industry sources report uneven crop establishment due to the dry conditions during the planting season in dry land, and some planted rapeseed plots were pulled up. Nevertheless, above average yields are projected in a reduced harvested land.

Consumption and Trade

Spain has highly variable grain yields, which, combined with its comparatively large livestock sector, results in a significant structural shortfall of feed grains and protein meals. Spain is the EU-28's largest grain importing Member State. Regardless the size of the domestic grain crop, Spain needs to import at least **13 MMT** of grains per year to meet the country's total average demand of just above **35 MMT** of grains.

The robust feed demand, shorter domestic crop, and lower pasture availability in **MY2017/18**, along with the fact that the **MY2018/19** winter grain crop is developed behind schedule, and it has been made available later than usual, would push the country's total grain imports up to the record level of **17 MMT**.

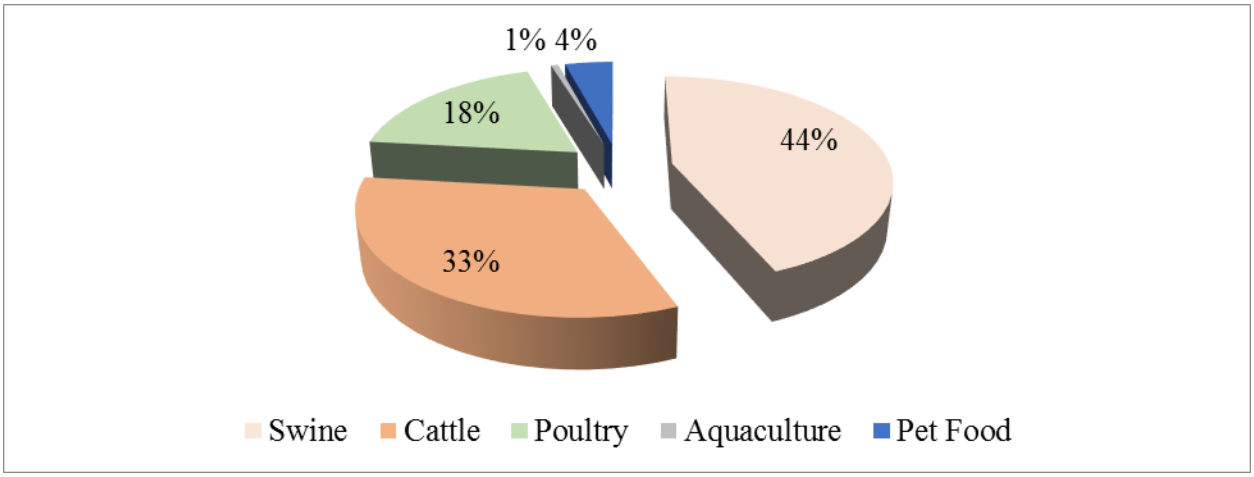
The **compound feed industry** is the main customer of grains and oilseed meals in Spain. Grain consumption by the feed industry (industrial and on farm) amounts, on average, to **25 MMT**. Nearly half of Spain's industrial feed production is produced under vertical integration model, one fourth goes to the free market, and the remaining fourth is managed by agricultural cooperatives. The Spanish feed sector vertical structure and integration, in particular in the poultry and swine sectors, from grain purchases to meat export sales, results in high production and market efficiencies. The fact that raw materials are not largely available differentiates Spain from other key players in the EU and global meat market. The Spanish feed-supply value-chain participants are experts in managing the scarce feed ingredients available. Buyers may turn to domestic or imported grain depending on price and location factors. While inland manufacturers are more inclined to use domestic grains, feed compounders in port locations can switch rapidly between grains and benefit from favorable price spreads. For instance, Spain jumped to low priced U.S. sorghum imports when it was hit by Chinese anti-dumping tariffs in mid-April, and switched back to corn-based feed formula when the window of opportunity vanished. Trade sources estimate that total U.S. sorghum imports by Spain during that period of time could amount to 250 thousand metric tons.

Swine, followed by cattle and poultry, are Spain's main livestock sectors. Official statistical information for **2017** shows that the Spanish swine sector accounts for nearly 45 percent of the industrial compound feed production, followed by cattle with over one third of production. Poultry feed production accounts for nearly 20 percent of the total feed produced in the country[1] (**Graph 5**).

Additional information on livestock situation in Spain can be found in the GAIN Report SP1801.

[1] *Given the limited external trade of feed, it can be assumed that nearly all feed produced in the country is also consumed locally.*

Graph 5. Feed Production Distribution by Type - CY 2017



Source: FAS Madrid based on CESFAC data.

In-country feed demand is strong and driven by meat exports evolution. Domestic meat consumption is fairly stable, with slight growth due to tourism. Spain continues to break tourist records with the number of tourists visiting the country. In **2017**, the Spanish National Statistics Institute indicated that 82 million tourists arrived in Spain, up 9 percent compared to **2016**.
In **MY2018/19**, compound feed production is expected to remain strong as export opportunities in export markets continue to exist. However, ample domestic pasture availability may reduce feed needs compared to the previous season.

As far as the composition of the **feed** formula is concerned, the short domestic crop in **MY2017/18** resulted in livestock breeders feeding significantly less **barley** and more **corn** to their animals. In **MY2018/19**, barley consumption in feed is anticipated to rebound, although **corn** will still play an important role in the feed formula.

In regards to the **bioethanol** industry, there are three grain-based bioethanol facilities in Spain whose total grain consumption may amount to nearly 1 MMT. Spain's largest grain-based in-land bioethanol plant was on production halt between April **2016** and August **2017**, due to tight margins (as input and output have to be transported from and to port locations respectively). Since August **2017,** all plants are running at nearly full capacity. Consequently, the country's grain consumption level in the bioethanol industry grew marginally in **2017**, and is projected register further growth in **2018**. In **MY2018/19, corn** is anticipated to remain the preferred and most likely sole feedstock for the Spanish grain-bioethanol industry.

Related Reports

Report	Date Released
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