

The Three Annual Seasons of Dry Beans in Brazil

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Abstract: Brazil is the world's largest grower of dry beans, with an average annual production of 3.8 million metric tons. Dry beans is a staple food for the Brazilian population, almost essential for their diet and consumed daily for more than 70% of the population, besides being an excellent source of iron, protein and minerals. Bean is grown practically all over the Brazilian territory; however, great part of the production is concentrate in only 10 states, responsible for 85% of the national production, distributed in three distinct growing seasons, rainy, dry and winter. This is due to the fact that the Brazilian market prefers freshly-picked dry beans. The first season, known as the rainy, is sown between August and October, corresponding to around 46% of the Brazilian production. The second season, known as the dry, is sown from December to for the March and it is used as rotation for corn and soybean planting areas, currently, this represents 31% of the total annual bean production in the country.

Key words: Dry beans • Growing seasons • Yield

INTRODUCTION

The culture of common bean (*Phaseolus vulgaris* L.) occupies an area of 27 million hectares around the world and is the most important leguminous used to feed more than 500 million people in Latin America and Africa [1].

Brazil is the world's largest grower of dry beans, with an average annual production of 3.8 million metric tons. Dry beans is a staple food for the Brazilian population, almost essential for their diet and consumed daily for more than 70% of the population, besides being an excellent source of iron, protein and minerals [2].

Bean is grown practically all over the Brazilian territory; however, great part of the production is concentrate in only 10 states, Paraná (PR), Minas Gerais (MG), Bahia (BA), São Paulo (SP), Goiás (GO), Santa Catarina (SC), Rio Grande do Sul (RS), Ceará (CE), Pernambuco (PE) and Pará (PA), responsible for 85% of the national production, distributed in three distinct growing seasons, rainy, dry and winter. This is due to the fact that the Brazilian market prefers freshly-picked dry beans [3].

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known as the dry, is sown from December to for the March and it is used as rotation for corn and soybean planting areas. Currently, this represents 31% of the total annual bean production in the country [4].

The third is known as the winter season and its participation in the annual production is 23%. Sowing takes place in June/July, always with the Center Pivot sprinkler irrigation system, reaching high yield and supplying the market between the end of the second crop commercialization and the beginning of the first. Table 1 summarizes the agricultural calendar for the annual bean seasons in Brazil [4, 5].

The total area occupied by the rainy season in Brazil is around 1.2 billion hectares. Around 1.3 million metric tons is produced in this area, with an average yield of 1078 kg ha⁻¹. During the dry season, bean sown area is of 2.0 million hectares. Northeastern and Northern states in Brazil have greater extensions of sown areas, although, differently from the first season, their yield averages are low, around 826 kg ha⁻¹ and its total production reaches 1.5 million metric tons. The winter season occupies an area of 753 thousand hectares with an average yield of 989 kg ha⁻¹. Total production can reach 745 thousand tons. Table 2 shows the areas, average yield and total production from the main bean growing regions in Brazil, separated by seasons [5].

Table 1: Agricultural calendar for bean seasons in Brazil



Crop	Participation in the Brazilian production (%)												
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1 ^a Water Crop	46												
2 ^a Drought Crop	31												
3 ^a Winter Crop	23												
 Planting  Harvest													
Source: CONAB, 2013.													

Table 2: Comparative table for area, yield and production among main bean growing regions in different Brazilian crops.

Region/UF	Area (In thousand ha)			Productivity (In kg ha ⁻¹)			Production (In tons)		
	Crops								
	Waters	Drought	Winter	Waters	Drought	Winter	Waters	Drought	Winter
NORTH	5,2*	171,3	11,7	775	794	2250	4,0	136,0	26,3
Tocantins (TO)	5,2	39,6	11,7	775	1092	2250	4,0	43,2	26,3
Roraima (RR)	---	3,0	---	---	660	---	---	2,0	---
Rondônia (RO)	---	57,5	---	---	662	---	---	38,1	---
Acre (AC)	---	12,2	---	---	540	---	---	6,6	---
Amazonas (AM)	---	5,3	---	---	900	---	---	4,8	---
Amapá (AP)	---	1,7	---	---	780	---	---	1,3	---
Pará (PA)	---	52,0	---	---	770	---	---	40,0	---
NORTH EAST	497,2	1068,8	590,3	426	462	615	211,7	493,7	363,1
Maranhão (MA)	57,3	50,3	---	414	455	---	23,7	22,9	---
Piauí (PI)	221,0	14,6	---	389	883	---	86,0	12,9	---
Bahia (BA)	218,9	---	310,6	466	---	670	102,0	---	208,1
Ceará (CE)	---	596,4	12,9	---	494	1000	---	294,6	12,9
Rio Grande do Norte (RN)	---	63,7	---	---	494	---	---	31,5	---
Paraíba (PB)	---	179,4	---	---	350	---	---	62,8	---
Pernambuco (PE)	---	164,4	168,3	---	420	530	---	69,0	89,2
Alagoas (AL)	---	---	61,8	---	---	500	---	---	30,9
Sergipe (SE)	---	---	36,7	---	---	600	---	---	22,0
MIDWEST	87,6	203,9	44,6	2246	1231	2570	196,8	251,2	114,6
Mato Grosso (MT)	14,3	165,0	12,6	2071	1098	1701	29,6	181,2	21,4
Mato Grosso do Sul (MS)	1,2	17,4	0,4	1965	1200	1340	2,4	20,9	0,5
Goiás (GO)	62,2	21,2	25,6	2267	2292	2900	141,0	48,6	74,2
Distrito Federal (DF)	9,9	0,3	6,0	2400	1500	3087	23,8	0,5	18,5
SOUTHEAST	288,6	212,3	101,1	1471	1462	2336	424,6	310,4	236,2
Minas Gerais (MG)	179,5	152,0	72,1	1204	1373	2512	216,1	208,7	181,1
Espírito Santo (ES)	6,7	12,1	29,0	874	942	---	5,9	11,4	---
Rio de Janeiro (RJ)	1,6	2,5	---	954	1052	---	1,5	2,6	---
São Paulo (SP)	100,8	45,7	29,0	1995	1918	1900	201,1	87,7	55,1
SOUTH	371,7	250,4	6,1	1375	1534	840	510,9	384,2	5,1
Parana (PR)	248,7	205,1	---	1406	1600	---	349,7	328,2	---
Santa Catarina (SC)	63,5	23,5	---	1511	1159	---	95,9	27,2	---
Rio Grande do Sul (RS)	59,5	21,8	---	1098	1319	---	65,3	28,2	---
Brazil		3.910,8			938			3.769,8	

*Data regarding the harvests 2011/2012

Source: CONAB, 2012

Annual bean production in Brazil is estimated in 38 million metric tons, sowed in around 3.9 million hectares, whereas the average yield for the current Brazilian bean season is around 938 kg ha⁻¹ [4].

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