



# Trends and growth rate of total pulses in India with special reference to Punjab

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**Abstract** The present study was conducted on secondary data for total Pulses to find out the trends, growth rate, percent share in area, production and yield from the year 1970-71 to 2019-20 both for India and Punjab separately. The data was collected from various secondary sources. The area of total pulses in India was 22.02 million hectares in 1970-71 and it increased to 28.34 million hectares in 2019-20. Similarly, the area of total pulses in Punjab was 0.414 million hectares in 1970-71 and it decreased to 0.033 million hectares in 2019-20. The production of total pulses in India was 11.69 million tons in 1970-71 and it increased to 23.15 million tons in 2019-20. Similarly, the production of total pulses in Punjab was 0.309 million tons in 1970-71 and it decreased to 0.030 million tons in 2019-20. So, the yield of total pulses in India was increased 53.86 percent from 1970-71 to 2019-20. The yield of total pulses in Punjab was increased 21.72 percent from 1970-71 to 2019-20. The share of Punjab in area of total pulses was 1.88 percent with respect to India during the period 1970-71 and it decreased to 0.12 percent during the period 2019-20. The share in production of total pulses for Punjab was 2.64 in India during the period 1970-71 and it decreased to 0.13 percent during the period 2019-20. Similarly, the Punjab share in yield of total pulses was 140.68 percent in India during the period 1970-71 and it decreased to 111.27 percent during the period 2019-20. The overall growth rate of total pulses in area of India was 21.86 percent from 1970-71 to 2019-20. This clearly indicated the overall growth rate of total pulses in area of India was almost constant or increased negligible from 1970-71 to 2019-20 in India. The overall growth rate of total pulses in production of India was 9.90 percent during the period 1970-71 to 2019-20. The overall growth rate of total pulses in yield of India was 453.64 percent during the period 1970-71 to 2019-20. This showed that growth rate of yield in pulses was not continuous from 1970-71 to 2019-20 in India. The overall growth rate of total pulses in area of Punjab was negative during the period 1970-71 to 2019-20. The overall growth rate of total pulses in production of Punjab was negative from 1970-71 to 2019-20. The overall growth rate of total pulses in yield of Punjab was 716.11 percent during the period 1970-71 to 2019-20.

**Keywords:** Growth rate, Correlation coefficient, Pulses, India, Punjab

## Introduction

Pulses are 20 to 25 per cent protein by weight which is double the protein content of wheat and three times that of rice. The country has exported 296,169.83 MT of pulses to the world for the worth of Rs. 2,116.69 Crores/ 284.26 USD Millions during the year 2020-21. (*APEDA-Agricultural and processed food products export development authority, Ministry of commerce and Industry, Government of India*, [https://apeda.gov.in/apedawebsite/contact\\_us/contact\\_us.htm](https://apeda.gov.in/apedawebsite/contact_us/contact_us.htm)).

The area under pulses in Punjab was declining due to the wheat-paddy assured price cycle, "Even Currently, Punjab needs around 6 lakh tonnes of pulses, but its own production is around 36,500 tonnes including 16,500 tonnes of Kharif and Rabi pulses and 20,000 tonnes of summer pulses. This is only 6 per cent of the total consumption requirement of the state. This is the reason that experts believe that Punjab can play a major role to meet the pulses shortage (*Written by Anju Agnihotri Chaba the Indian Express, Sunday December*

19, 2021 (<https://indianexpress.com/article/cities/chandigarh/for-punjab-pulses-could-hold-key-to-breaking-wheat-paddy-cycle-7353861/>).

So keeping in view the importance of Pulses in Human diet the present study has focused on following objectives:

- (1) The trends and changes occurred in area, production and yield of total pulses in India as whole and Punjab in particular and compared the results from the year 1970-71 to 2019-20.
- (2) The percent shares of area, production and yield of Pulses in Punjab with respect to India from 1970-71 to 2019-20.
- (3) The growth rate of area, production and yield of total pulses both for India and Punjab separately and compared the results in 6 different periods from 1970-71 to 2019-20.
- (4) The correlation between area with production and yield with production in 6 different periods since 1970-71 to 2019-20 both for India and Punjab separately and compared the results

## Materials and Methods

The present study was conducted on secondary data for total Pulses in area, production and yield from the year 1970-71 to 2019-20 both for India and Punjab separately. The data was collected from the Agricultural statistics at a Glance, Govt. of India (2020), Newspaper- The Indian Express (2021), The statistical Abstract of Punjab (2020) and APEDA- Agricultural and processed food products export development authority, Ministry of commerce and Industry, Government of India. The analysis was done by the simple percentages, growth rates and correlation, for different variables of Pulse India and Punjab Separately since 1970-71 to 2019-20 and compared the results. The data was plotted in the desired format in excel sheet of window and prepared the figure for trend in area, production and yield and compared the results with different parameters and with different periods. The correlation coefficient was also used for the analysis of the data.

The formula for the compound growth rate was calculated by the following formula:

CAGR can be calculated using the following formula:

$$\text{CAGR} = (\text{FV}/\text{PV})^{(1/n)} - 1$$

PV stands for present value, the value at t=0 FV stands

for future value, the ending value at t=n N is the total number of years between PV and FV.

CAGR formula can be derived by simple mathematical manipulation of the formula for present value or future value of a single sum of money.

The relationship between present value (PV) and future value (FV) of a single sum of money invested for n number of periods at annual percentage is represented by the following expression:

$$\text{FV} = \text{PV} \times (1 + i)^n$$

Rate stands for the annual compound growth rate and n is total number of years. Let us substitute i with CAGR:

$$\text{FV} = \text{PV} \times (1 + \text{CAGR})^n$$

Let's divide both sides by PV and raise both sides to (1/n):

$$(\text{FV}/\text{PV})^{(1/n)} = ((1 + \text{CAGR})^n)^{(1/n)}$$

n and 1/n cancel each other, and we get:

$$(\text{FV}/\text{PV})^{(1/n)} = 1 + \text{CAGR}$$

Subtracting 1 from both sides we get:

$$(\text{FV}/\text{PV})^{(1/n)} - 1 = \text{CAGR}$$

Note: Each value of growth rate was considered as percentage for comparison purpose.

The correlation coefficient that indicates the strength of the relationship between two variables can be found using the following formula:

$$r_{xy} = \frac{\sum(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum(x_i - \bar{x})^2 \sum(y_i - \bar{y})^2}}$$

Where:  $r_{xy}$  – the correlation coefficient of the linear relationship between the variables x and y

$x_i$  – the values of the x-variable (area or yield of Pulses) in a sample

$\bar{x}$  – the mean of the values of the x-variable

$y_i$  – the values of the y-variable (production of Pulses) in a sample

$\bar{y}$  – the mean of the values of the y-variable

## Results and Discussion

The table 1 indicated that area of total pulses in India was 22.02 million hectares in 1970-71 and it increased to 28.34 million hectares in 2019-20. So, the area of total pulses in India was increased 28.70 percent from 1970-71 to 2019-20. Similarly, the area of total pulses in Punjab was 0.414 million hectares in 1970-71 and it decreased to 0.033 million hectares in 2019-20. So, the area of total pulses in Punjab was decreased 92.03 percent from 1970-71 to 2019-20.

The table 1 indicated that the production of total pulses in India was 11.69 million tons in 1970-71 and it increased to 23.15 million tons in 2019-20. So, the production of total pulses in India was increased 98.03 percent from 1970-71 to 2019-20. Similarly, the production of total pulses in Punjab was 0.309 million tons in 1970-71 and it decreased to 0.030 million tons in 2019-20. So, the production of total pulses in Punjab was decreased 90.30 percent from 1970-71 to 2019-20.

Table 1 indicated that the yield of total pulses in India was 531.00 kg/hectare in 1970-71 and it increased to 817 kg/hectare in 2019-20. So, the yield of total pulses in India was increased 53.86 percent from 1970-71 to 2019-20. The maximum yield of total pulses in India was 853 kg/hectares during 2017-18 and it was minimum 385 kg/hectares during 1980-81. Similarly, the yield of total pulses in Punjab was 747.00 kg/hectare in 1970-71 and it increased to 909.09 kg/hectare in 2019-20. So, the yield of total pulses in Punjab was increased 21.72 percent from 1970-71 to 2019-20. The maximum yield of total pulses in India was 933.33 kg/hectares during 2018-19 and it was minimum 496 kg/hectares during 1981-82.

The table 2 indicated that the share of area in total pulses for Punjab was 1.88 percent in India during the period 1970-71 and it decreased to 0.12 percent during the period 2019-2020. The share of area in total pulses for Punjab was maximum 2.05 percent in India during the period 1973-74 and it was minimum 0.07 percent during the period 2016-17. The share in production of total pulses for Punjab was 2.64 in India during the period 1970-71 and it decreased to 0.13 percent during the period 2019-2020. The share of production in total pulses for Punjab was maximum 4.01 percent in India during the period 1975-76 and it was minimum 0.04 percent during the period 2016-17. Similarly, the share in yield of total pulses for Punjab was 140.68 percent in India during the period 1970-71 and it decreased to 111.27 percent during the period 2019-2020. The share of yield in total pulses for Punjab was maximum 201.54 percent in India during the period 1975-76 and it was minimum 76.34 percent during the period 2015-16.

The table 3 indicated that the growth rate of total pulses in area of India was increased from 21.82 percent to 22.96 percent, and then 23.74 percent in the period 1970-71 to 1979-80, 1980-81 to 1989-90, 1990-91 to 2000-2001 respectively. This clearly showed that the growth rate in area

of total pulses in India was increased from 1970 to 2001 but in very slow manner. But the growth rate of total pulses in India was 21.86 in the fourth period from 2001-02 to 2009-10. This clearly indicated that the growth rate of total pulses was less in fourth period as compared to 2nd and 3rd period in India. The growth rate of total pulse in area of India was 23.86 percent in the 5th period from 2010-11 to 2019-20. This clearly indicated the growth rate of total pulses in area of India was maximum in the 5th period as compared to previous periods. The overall growth rate of total pulses in area of India was 21.86 percent from 1970-71 to 2019-20. This clearly indicated the overall growth rate of total pulses in area of India was almost constant or increased negligible from 1970-71 to 2019-20 in India.

The table 3 indicated that the growth rate of total pulses in production of India was decreased from 10.84 percent to 10.18 percent in the period 1970-71 to 1979-80, 1980-81 to 1989-90 respectively. This clearly showed that the growth rate in production of total pulses in India was decreased from 1970-71 to 1989-90 but in very slow manner. But the growth rate of total pulses in production of India was 13.60 in the third period from 1990-91 to 2000-2001. This clearly indicated that the growth rate of total pulses in production of India was more in third period as compared to 1st and 2nd period. The growth rate of total pulses in production of India was 12.65 percent in the 4th period from 2001-02 to 2009-10. This clearly indicated the growth rate of total pulses in production of India was less as compared to 3rd period but it was more as compared to 1st and 2nd period. The growth rate of total pulses in production of India was 16.78 percent in the 5th period from 2010-11 to 2019-20. The overall growth rate of total pulses in production of India was 9.90 percent during the period 1970-71 to 2019-20.

The table 3 indicated that the growth rate of total pulses in yield of India was decreased from 496.88 percent to 443.46 percent in the period 1970-71 to 1979-80 and 1980-81 to 1989-90 respectively. This clearly showed that the growth rate in yield of total pulses in India was decreased from the period 1970-71 to 1989-90 but in very slow manner. But the growth rate of total pulses in yield of India was 572.49 percent in the third period from 1990-91 to 2000-2001. This clearly indicated that the growth rate of total pulses in yield of India was more in third period as compared to 1st and 2nd period. The growth rate of total pulses in yield of India was 578.73 percent in the 4th

period from 2001-02 to 2009-10. This clearly indicated the growth rate of total pulses in yield of India during 4th period was more as compared to 1st, 2nd and 3rd period. The growth rate of total pulses in yield of India was 703.36 percent in the 5th period from 2010-11 to 2019-20. The overall growth rate of total pulses in yield of India was 453.64 percent during the period 1970-71 to 2019-20. This showed that growth rate of yield in pulses was not continuous from 1970-71 to 2019-20 in India.

The table 3 indicated that the growth rate of total pulses in area of Punjab was decreased from 0.41 percent, 0.30 percent, 0.13 percent, 0.05 and then 0.05 percent in the period 1970-71 to 1979-80, 1980-81 to 1989-90, 1990-91 to 2000-2001, 2001-02 to 2009-10 and 2010-11 to 2019-20 respectively. This clearly showed that the growth rate in area of total pulses in Punjab was decreased from 1970 to 2019 but in very fast manner. The overall growth rate of total pulses in area of Punjab was negative during the period 1970-71 to 2019-20.

The table 3 indicated that the growth rate of total pulses in production of Punjab was decreased from 0.33 percent, 0.18 percent, 0.10 percent, 0.04 and then 0.04 percent in the period 1970-71 to 1979-80, 1980-81 to 1989-90, 1990-91 to 2000-2001, 2001-02 to 2009-10 and 2010-11 to 2019-20 respectively. This clearly showed that the growth rate in production of total pulses in Punjab was decreased from 1970 to 2019 but in very fast manner. The overall growth rate of total pulses in production of Punjab was negative from 1970-71 to 2019-20.

The table 3 indicated that growth rate total pulses in yield of Punjab was 804 percent during the 1st period 1970-71 to 1979-80. But the growth rate total pulses in yield of Punjab was 581.74 percent the 2nd period 1980-81 to 1989-90. The growth rate of total pulses in yield of Punjab was 796.77 percent during the 3rd period 1970-71 to 1979-8. The growth rate total pulses in yield of Punjab was 729.61 percent during the 4th period 1970-71 to 1979-80. The growth rate of total pulses in yield of Punjab was 831.41 percent during the 5th period 1970-71 to 1979-80. The overall growth rate of total pulses in yield of Punjab was 716.11 percent during the period 1970-71 to 2019-20.

The table 4 indicated the value of correlation coefficient between area with production and yield with production of total pulses in India during different periods. The value of the correlation coefficient of area with production of total pulses was positively correlated i.e.

0.67, 0.61, 0.68, 0.87, 0.91, and 0.87 percent in the period 1970-71 to 1979-80, 1980-81 to 1989-90, 1990-91 to 2000-2001, 2001-02 to 2009-10, 2010-11 to 2019-20 and 1970-71 to 2019-20 respectively. The overall impact of the value of the correlation coefficient of area with production of total pulses in India was high positive correlated i.e. 0.87 percent during the period 1970-2019-20.

The table 4 indicated the value of correlation coefficient between yield with production and yield with production of total pulses in India during different periods. The value of the correlation coefficient of yield with production of total pulses was positively correlated i.e. 0.88, 0.96, 0.77, 0.93, 0.85, and 0.95 percent in the period 1970-71 to 1979-80, 1980-81 to 1989-90, 1990-91 to 2000-2001, 2001-02 to 2009-10, 2010-11 to 2019-20 and 1970-71 to 2019-20 respectively. The value of correlation coefficient between yields with production was more as compared area with production in all the periods except in the period 2010-11 to 2019-20. The overall impact of the value of the correlation coefficient of yield with production of total pulses was near to perfect positive correlated in India i.e. 0.95 percent during the period 1970-71 to 2019-20.

The table 4 indicated the value of correlation coefficient between area with production and yield with production of total pulses in Punjab during different periods. The value of the correlation coefficient of area with production of total pulses was positively correlated i.e. 0.94, 0.61, 0.95, 0.96, 0.97 percent during the period 1970-71 to 1979-80, 1980-81 to 1989-90, 1990-91 to 2000-2001, 2001-02 to 2009-10, 2010-11 to 2019-20 respectively. The overall impact of the value of the correlation coefficient of area with production of total pulses in Punjab was perfectly positive correlated i.e. 0.98 percent during the period 1970-2019-20.

The value of the correlation coefficient of yield with production of total pulses in Punjab was positively correlated i.e. 0.94 percent, 0.63 percent in the period 1970-71 to 1979-80 and 1990-91 to 2000-2001. The value of the correlation coefficient of yield with production of total pulses was negatively correlated -0.67 percent in the period 2001-02 to 2009-10. The value of the correlation coefficient of yield with production of total pulses was low positively correlated i.e. 0.27 and 0.34 in the period 1980-81 to 1989-90 and 2010-11 to 2019-20. The overall impact of the value of the correlation coefficient of yield with production of total pulses was almost not correlated in Punjab i.e. -0.03 percent during the period 1970-71 to 2019-20.

Table 1: The area, production and yield of total pulses during different periods of India and Punjab

Total Pulses						
Year	India			Punjab		
	Area (Million Hectares)	Production (Million Tonnes)	Yield (Kg/Hectares)	Area (Million Hectares)	Production (Million Tonnes)	Yield (Kg/Hectares)
1970-71	22.02	11.69	531.00	0.414	0.309	747.00
1971-72	22.54	11.82	524.00	0.385	0.305	793.00
1972-73	22.15	11.09	501.00	0.380	0.294	773.00
1973-74	20.92	9.91	474.00	0.430	0.352	820.00
1974-75	23.43	10.01	427.00	0.328	0.245	746.00
1975-76	22.03	10.02	455.00	0.439	0.402	917.00
1976-77	24.45	13.04	533.00	0.393	0.331	844.00
1977-78	22.98	11.36	494.00	0.400	0.346	863.00
1978-79	23.50	11.97	510.00	0.410	0.313	763.00
1979-80	23.66	12.18	515.00	0.305	0.197	645.00
1980-81	22.26	8.57	385.00	0.338	0.200	592.00
1981-82	22.46	10.63	473.00	0.320	0.159	496.00
1982-83	23.84	11.51	483.00	0.208	0.122	585.00
1983-84	22.83	11.86	519.00	0.198	0.136	686.00
1984-85	23.54	12.89	548.00	0.204	0.151	743.00
1985-86	22.74	11.96	526.00	0.225	0.204	907.00
1986-87	24.42	13.36	547.00	0.225	0.179	795.00
1987-88	23.16	11.71	506.00	0.158	0.098	628.00
1988-89	21.27	10.96	515.00	0.171	0.130	763.00
1989-90	23.15	13.85	598.00	0.136	0.099	728.00
1990-91	23.41	12.86	549.00	0.146	0.108	740.00
1991-92	24.66	14.26	578.00	0.102	0.080	780.00
1992-93	22.36	12.82	573.00	0.102	0.075	730.00
1993-94	22.25	13.30	598.00	0.101	0.081	796.00
1994-95	23.03	14.04	610.00	0.103	0.091	878.00
1995-96	22.28	12.31	552.00	0.103	0.084	818.00
1996-97	22.45	14.15	630.00	0.098	0.080	821.00
1997-98	22.87	12.97	567.00	0.088	0.060	683.00
1998-99	23.50	14.91	634.00	0.078	0.051	654.00
1999-00	21.12	13.42	635.00	0.066	0.045	688.00
2000-01	20.35	11.08	544.00	0.060	0.044	740.00
2001-02	22.01	13.37	607.00	0.054	0.036	670.00
2002-03	20.50	11.13	543.00	0.043	0.034	783.00
2003-04	23.46	14.91	635.00	0.048	0.039	823.00
2004-05	22.76	13.13	577.00	0.040	0.032	801.00
2005-06	22.39	13.38	598.00	0.033	0.026	804.00
2006-07	23.19	14.20	612.00	0.032	0.027	850.00
2007-08	23.63	14.76	625.00	0.029	0.023	804.00
2008-09	22.09	14.57	659.00	0.024	0.022	908.00
2009-10	23.28	14.66	630.00	0.020	0.018	895.00
2010-11	26.40	18.24	691.00	0.026	0.024	923.00
2011-12	24.46	17.09	699.00	0.063	0.053	849.00
2012-13	23.26	18.34	789.00	0.064	0.053	823.00
2013-14	25.21	19.25	764.00	0.045	0.040	872.00
2014-15	23.55	17.15	728.00	0.059	0.054	922.00
2015-16	24.91	16.32	655.00	0.020	0.012	500.00
2016-17	29.45	23.13	786.00	0.021	0.010	857.14
2017-18	29.81	25.42	853.00	0.031	0.018	870.97
2018-19	29.16	22.08	757.00	0.028	0.028	933.33
2019-20	28.34	23.15	817.00	0.033	0.030	909.09

Source: compiled from Agricultural statistics at a Glance(2020), The statistical Abstract of Punjab (2020) and APEDA- Agricultural and processed food products export development authority, Ministry of commerce and Industry, Government of India

Table 2: The percent share of area, production and yield of total Pulses during different periods of Punjab in India

Year	% share of Area of Pulses in Punjab with respect to India	% share of Production of Pulses in Punjab with respect to India	% share of Yield of Pulses in Punjab with respect to India
1970-71	1.88	2.64	140.68
1971-72	1.71	2.58	151.34
1972-73	1.72	2.65	154.29
1973-74	2.05	3.55	173.00
1974-75	1.40	2.44	174.71
1975-76	1.99	4.01	201.54
1976-77	1.61	2.54	158.35
1977-78	1.74	3.04	174.70
1978-79	1.74	2.61	149.61
1979-80	1.29	1.61	125.24
1980-81	1.52	2.33	153.77
1981-82	1.43	1.49	104.86
1982-83	0.87	1.06	121.12
1983-84	0.87	1.14	132.18
1984-85	0.87	1.17	135.58
1985-86	0.99	1.70	172.43
1986-87	0.92	1.34	145.34
1987-88	0.68	0.84	124.11
1988-89	0.80	1.19	148.16
1989-90	0.59	0.72	121.74
1990-91	0.63	0.84	134.79
1991-92	0.41	0.56	134.95
1992-93	0.46	0.58	127.40
1993-94	0.46	0.61	133.11
1994-95	0.45	0.64	143.93
1995-96	0.46	0.68	148.19
1996-97	0.43	0.57	130.32
1997-98	0.38	0.46	120.46
1998-99	0.33	0.34	103.15
1999-00	0.31	0.34	108.35
2000-01	0.29	0.40	136.03
2001-02	0.24	0.27	110.38
2002-03	0.21	0.30	144.20
2003-04	0.20	0.26	129.61
2004-05	0.17	0.24	138.82
2005-06	0.15	0.20	134.45
2006-07	0.14	0.19	138.89
2007-08	0.12	0.16	128.64
2008-09	0.11	0.15	137.78
2009-10	0.09	0.12	142.06
2010-11	0.10	0.13	133.57
2011-12	0.26	0.31	121.46
2012-13	0.28	0.29	104.31
2013-14	0.18	0.21	114.14
2014-15	0.25	0.32	126.65
2015-16	0.08	0.07	76.34
2016-17	0.07	0.04	109.05
2017-18	0.10	0.07	102.11
2018-19	0.10	0.13	123.29
2019-20	0.12	0.13	111.27

**Table 3 Growth rate of total pulses during different periods of India and Punjab**

Period	Total Pulses					
	India			Punjab		
	Area (Million Hectares)	Production (Million Tonnes)	Yield (Kg/Hectares)	Area (Million Hectares)	Production (Million Tonnes)	Yield (Kg/Hectares)
1970-71 to 1979-80	21.82	10.84	496.88	0.41	0.33	804.02
1980-81 to 1989-90	22.96	10.18	443.46	0.30	0.18	581.74
1990-91 to 2000-2001	23.74	13.60	572.49	0.13	0.10	796.77
2001-02 to 2009-10	21.86	12.65	578.73	0.05	0.04	729.61
2010-11 to 2019-20	23.86	16.78	703.36	0.05	0.04	831.41
Overall (1970-71 to 2019-20)	21.81	9.90	453.64	Negative	Negative	716.11

**Table-4: The correlation coefficient i.e Area with production and yield with production of Pulses during different periods of India and Punjab**

Period	Total Pulses		
	Correlation	Correlation coefficient (India)	Correlation coefficient (Punjab)
1970-71 to 1979-80	Area with production	0.67	0.94
	Yield with Production	0.88	0.94
1980-81 to -1989-90	Area with production	0.61	0.61
	Yield with Production	0.96	0.27
1990-91 to 2000-2001	Area with production	0.68	0.95
	Yield with Production	0.77	0.63
2001-02 to 2009-10	Area with production	0.87	0.96
	Yield with Production	0.93	-0.67
2010-11 to 2019-20	Area with production	0.91	0.97
	Yield with Production	0.85	0.34
Overall (1970-71 to 2019-20)	Area with production	0.87	0.98
	Yield with Production	0.95	-0.03

## Conclusion

This research article clearly showed that total area of total pulses was not increased much from 1970 to 2019-20 in India. But the area of total pulses was decreased much from 1970-71 to 2019-20 in Punjab. Similarly the production of total pulses was increased almost double from 1970-71 to 2019-20 in India. The impact of increased yield of total pulses on production was more as compared to area during the period 1970-71 to 2019-20 in India. But the production of total pulses was decreased much from 1970-71 to 2019-20 in Punjab. The impact of decreased total area of total pulses on production was more as compared to decreased area during the period 1970-71 to 2019-20 in Punjab. The share of area in total pulses for Punjab was 1.88 percent in India during the period 1970-71 and it decreased to 0.12 percent during the period 2019-2020. The share in production of total pulses for Punjab was 2.64 in India during the period 1970-71 and it decreased to 0.13 percent during the period 2019-2020. Similarly, the share in yield of total pulses for Punjab was 140.68 percent in India during the period 1970-71 and it decreased to 111.27 percent during the period 2019-2020. So, The Punjab state can increase the area under Pulses because the yield of the pulses is more as compared to the yield of total pulses in India.

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