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A NOTE ON THE CULTIVATION OF SUNFLOWER IN HARYANA : SOME RECENT TRENDS

VIJAY KUMAR And RAJ KUMAR, Kurukshetra

ABSTRACT: Apart from foodgrains, oilseeds are one of the main crops in the cropping pattern of Haryana. The state has achieved tremendous success in the production of foodgrains, but it still lags behind in the case of oilseeds. Like many other similar regions, Haryana too has its traditional oilseeds growing districts, i.e., namely Faridabad, Gurgaon, Rewari and Mahendergarh. They could not cope with the demand of the state and due to the pressure of growing foodgrains extra areas cannot be devoted to oilseeds during Kharif and Rabi seasons. To overcome this problem, a new oilseed crop, i.e., Sunflower, which is an early maturity crop, has been introduced in the state. It is most suitable for the remaining districts of Haryana where irrigation facilities are available. Harayana has achieved a major break-through in production and productivity of foodgrains. But as the case of self-reliance in oilseeds is concerned, it has proved to be difficult, because there is a wide gap between the demand and supply of edible oils. It is difficult to bridge this gap, but efforts are being made by the government to handle this situation by launching various oilseeds production programmes and putting all possible efforts for operating them earnestly in the country.

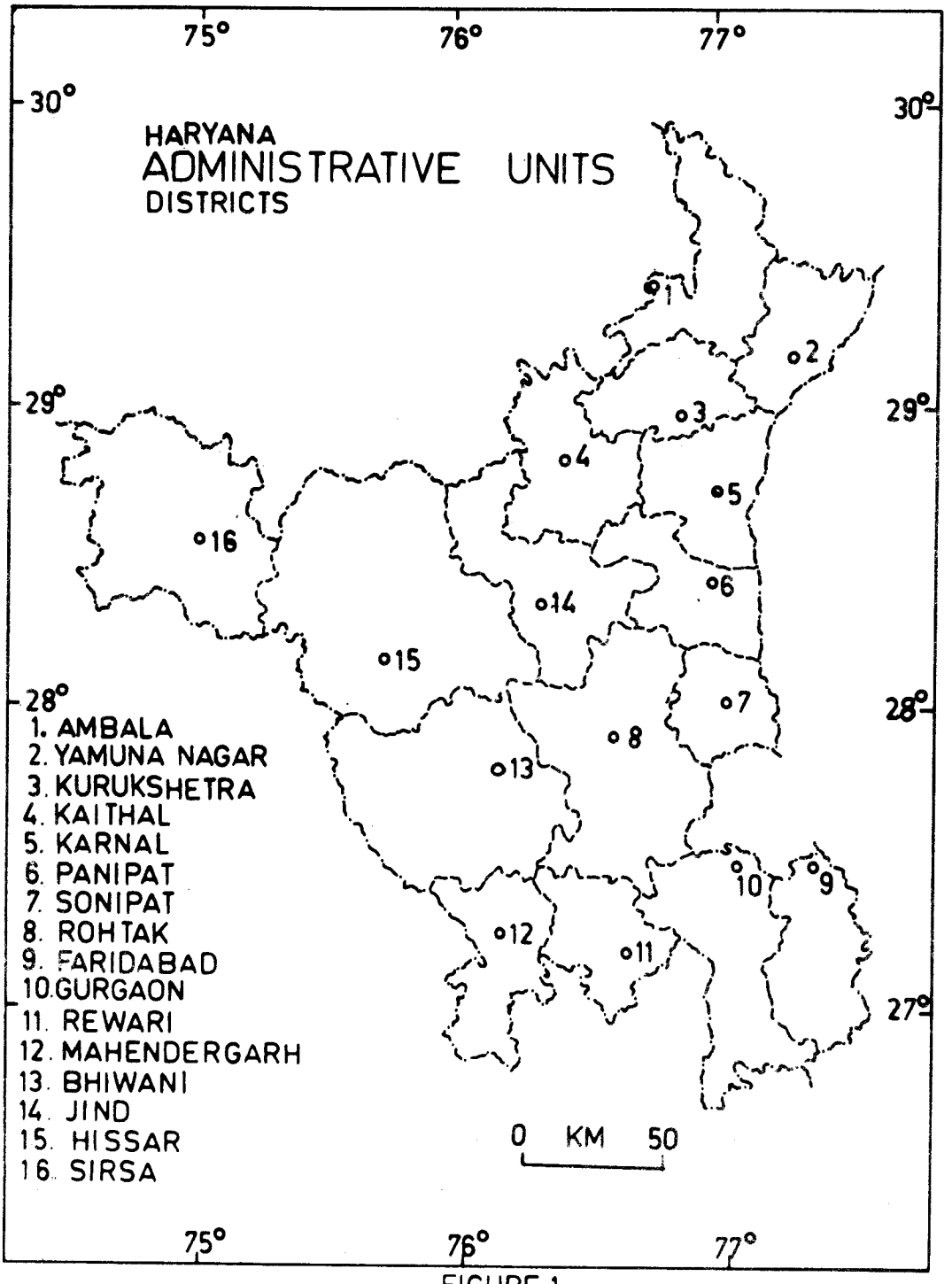
OIL SEEDS PRODUCTION IN HARAYANA

In Haryana, the main oilseeds are rapeseeds and mustard and their proudction has been rising over the past few years. Recently sunflower has been introduced in the state and is gaining popularity amongst farmers. In 1987-88, it was introduced by launching a programme for its production, but during that period the results were not very encouraging. But after that it has made a remarkable progress. Consequently, the area under sunflower has increased from 18,000 hectares in 1990-91 to about one lakh hectares in 1991-92.

Sunflower is a major source of vegetable oil in countries like Canada, Russia and Bulgaria. It has great potential as edible oil, as it has high level of fat-soluble vitamins and unsaturated fatty acid contents. Sunflower proteins are comparable to other oilseeds proteins in their nutritional quality. It also has high economic value, which can be seen from its chemical composition:

At 10 per cent moisture it contains:
43 - 50 percent oil,
15 - 19 percent protein,and
22 - 26 percent Husk

It is photo-insensitive and can be grown throughout the year over a great range of soil conditions with variations in output. It needs a moderately warm climate, and less rainfall (50 cm, but greater rainfall gives higher yields). It can best be grown on sandy loam to loamy clay soils, well supplied with calcium. It takes just 90 days for maturity, which has also encouraged the farmers for its production. Its yield varies from 10 to 30 quintals per hectare.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HARYANA
ADMINISTRATIVE UNITS
DISTRICTS
1. AMBALA
2. YAMUNA NAGAR
3. KURUKSHETRA
4. KAITHAL
5. KARNAL
6. PANIPAT
7. SONIPAT
8. ROHTAK
9. FARIDABAD
10. GURGAON
11. REWARI
12. MAHENDERGARH
13. BHIWANI
14. JIND
15. HISSAR
16. SIRSA
0 KM 50

FIGURE 1

As the previous results are encouraging, the farmers are now increasing the area under sunflower crop. Out of sixteen districts of Haryana (Ref. figure I), the cultivation of sunflower is concentrated in Karnal, Kurukshetra and Sonipat districts of Haryana, which shows that the spatial distribution of sunflower is not even and it is absent in those districts where the traditional oilseeds are concentrated. The reason for this is that the farmers of this area do not want to replace the traditional oilseeds with sunflower cultivation though it is a, short duration crop, which can give economic benefits to the farmers.

DISTRIBUTION OF OIL SEEDS AND SUNFLOWER CULTIVATION

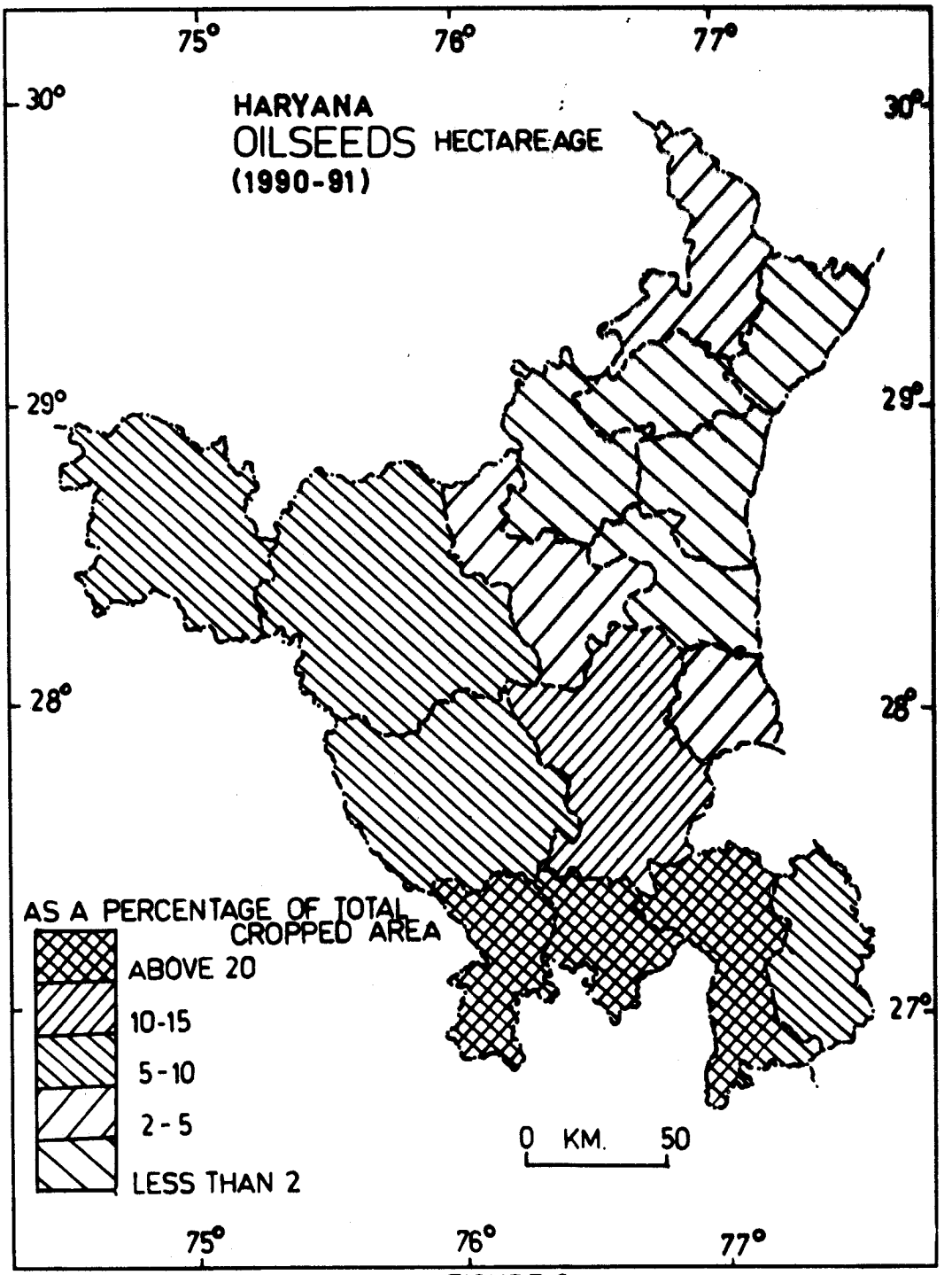
In 1990-91, on an average, 8.28 percent area was covered by oilseeds in Haryana (Table 1 and Figure 2). It was mainly concentrated in southern Haryana in the districts of Rohtak, Gurgaon Mahendergarh and Rewari. These are the areas having quite a high percentage, i.e., 26.68, 21.07, 20.13 and 14.63 respectively. Other districts having above average percentage are Sirsa, Hissar and Bhiwani. The concentration in these districts varies from 8.0 to 9.0 percent. Like southern districts these too receive quite a meagre rainfall.

Table 1

SHARE OF OILSEEDS - 1990 - 91

(000 hectares)

District	Total Cropped area	Area under Oilseeds	Percentage
Ambala	239	5.6	2.34
Yamunanagar	195	3.5	1.79
Kurukshetra	255	2.0	0.78
Kaithal	379	4.9	1.29
Karnal	346	5.4	1.56
Sonepat	160	5.3	3.3
Rohtak	523	76.5	14.63
Faridabad	253	17.3	6.84
Gurgaon	295	59.4	20.13
Rewari	199	53.1	26.68
Mahendergarh	262	55.2	21.07
Bhiwani	657	58.6	8.92
Jind	433	15.5	3.57
Hissar	951	80.2	8.43
Sirsa	590	48.7	8.25
Total	5931	491.2	8.28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HARYANA
OILSEEDS HECTAREAGE
(1990-91)
AS A PERCENTAGE OF TOTAL CROPPED AREA
ABOVE 20
10-15
5-10
2-5
LESS THAN 2
0 KM. 50

FIGURE 2

Table 2

SHARE OF SUNFLOWER - 1990 - 91

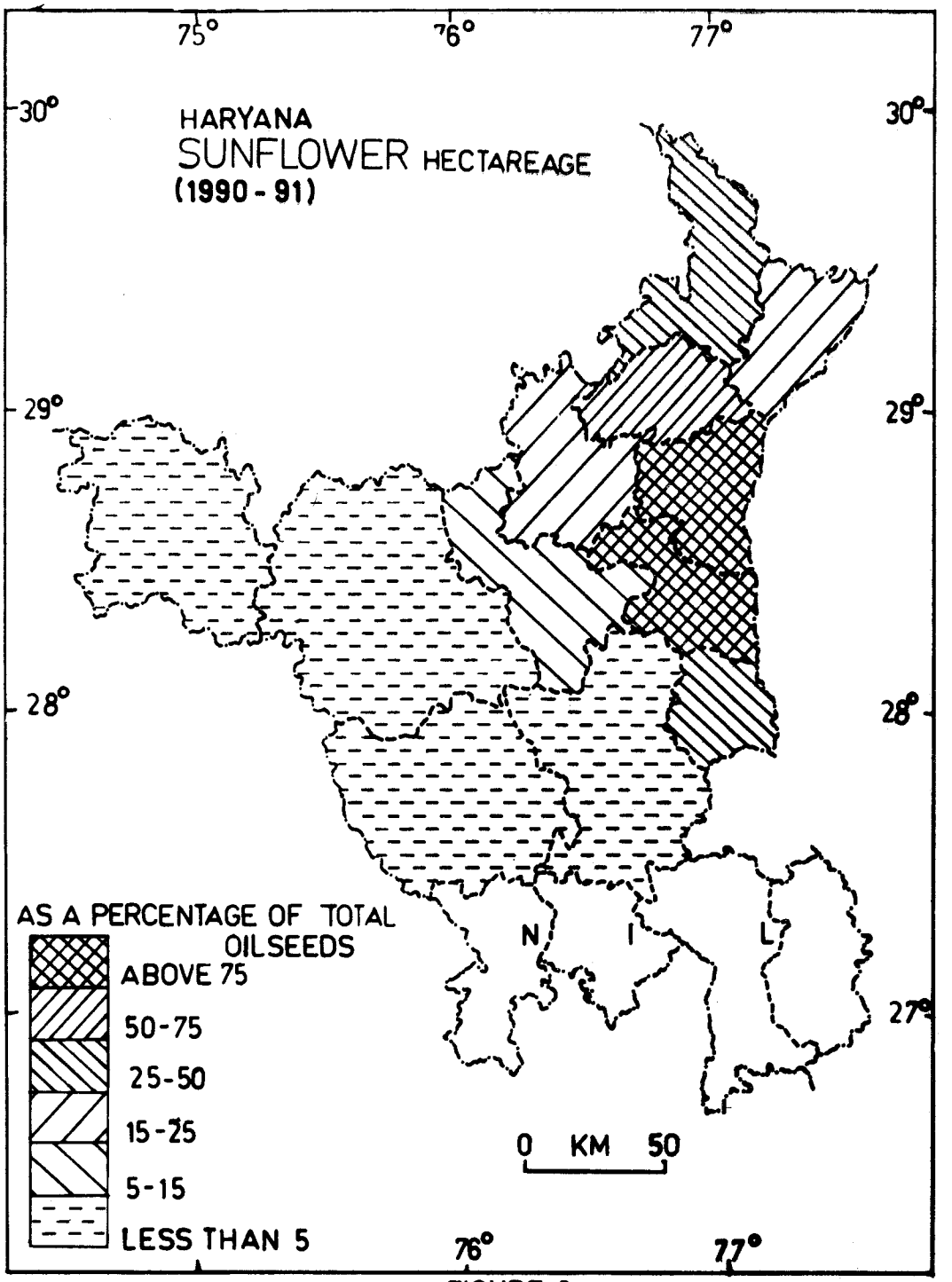
(000 hectares)

District	Area under oilseeds	Area under Sunflower	Percentage of oilseeds	Percentage of cropped area
Ambala	5.6	1.6	28.57	0.67
Yamunanagar	3.5	0.7	20.00	0.36
Kurukshetra	2.0	1.2	60.00	0.47
Kaithal	4.9	1.1	22.45	0.29
Karnal	5.4	4.1	75.92	1.39
Sonepat	5.3	1.6	30.19	1.6
Rohtak	76.5	3.3	4.31	3.3
Faridabad	17.3	0.2	1.15	0.2
Gurgaon	59.4	-	-	-
Rewari	53.1	-	-	-
Mahendergarh	55.2	-	-	-
Bhiwani	58.6	0.2	0.34	0.03
Jind	15.5	1.0	6.45	0.23
Hissar	80.2	1.4	1.75	0.15
Sirsa	48.7	1.5	3.08	0.25
Total	491.2	17.9	3.64	0.30

This clearly shows that oilseeds dominate is mainly in southern districts with some prospects in western part of Haryana as well. It leaves the districts of Ambala, Yamunanagar, Kaithal, Kurukshetra, Karnal, Sonepat, Jind and Faridabad. These districts have below average percentage. Amongst them, except for Faridabad, Jind and Sonepat, all others have a share below 3.0 percent, which is quite low. Even this small occupance has surfaced after the introduction of sunflower crop in recent years. Sunflower crop has quite a high share of 75.92 and 60.00 per cent (out of total oilseeds) in Karnal and Kurukshetra districts respecively, in 1990-91. The crop has quite a good supporting percentage of 30.19, 28.57, 22.45 and 20.00 in Sonepat, Ambala, Kaithal and Yamunanagar districts respectively (Refer Table 2 and Figure 3).

THE GROWTH OF SUNFLOWER CULTIVATION

Sunflower cultivation has again improved in the recent years, as seven districts have registered above 40 percent share. These are Kurukshetra (91.37 per cent), Karnal (80.00 per cent), Panipat which became district in 1991 (76.45 per cent), Kaithal (54.83 per cent), Ambala (54.54 per cent), Sonepat (46.15 per cent) and Yamunanagar (42.85 per cent). This crop is gaining ground in Sirsa, Hissar and Jind districts as well (Refer Table 3 and Figure 4).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HARYANA
SUNFLOWER HECTAREAGE
(1990 - 91)
AS A PERCENTAGE OF TOTAL OILSEEDS
ABOVE 75
50-75
25-50
15-25
5-15
LESS THAN 5
N I L
0 KM 50

FIGURE 3

Table 3

SHARE OF SUNFLOWER - 1991 - 92

(000 hectares)

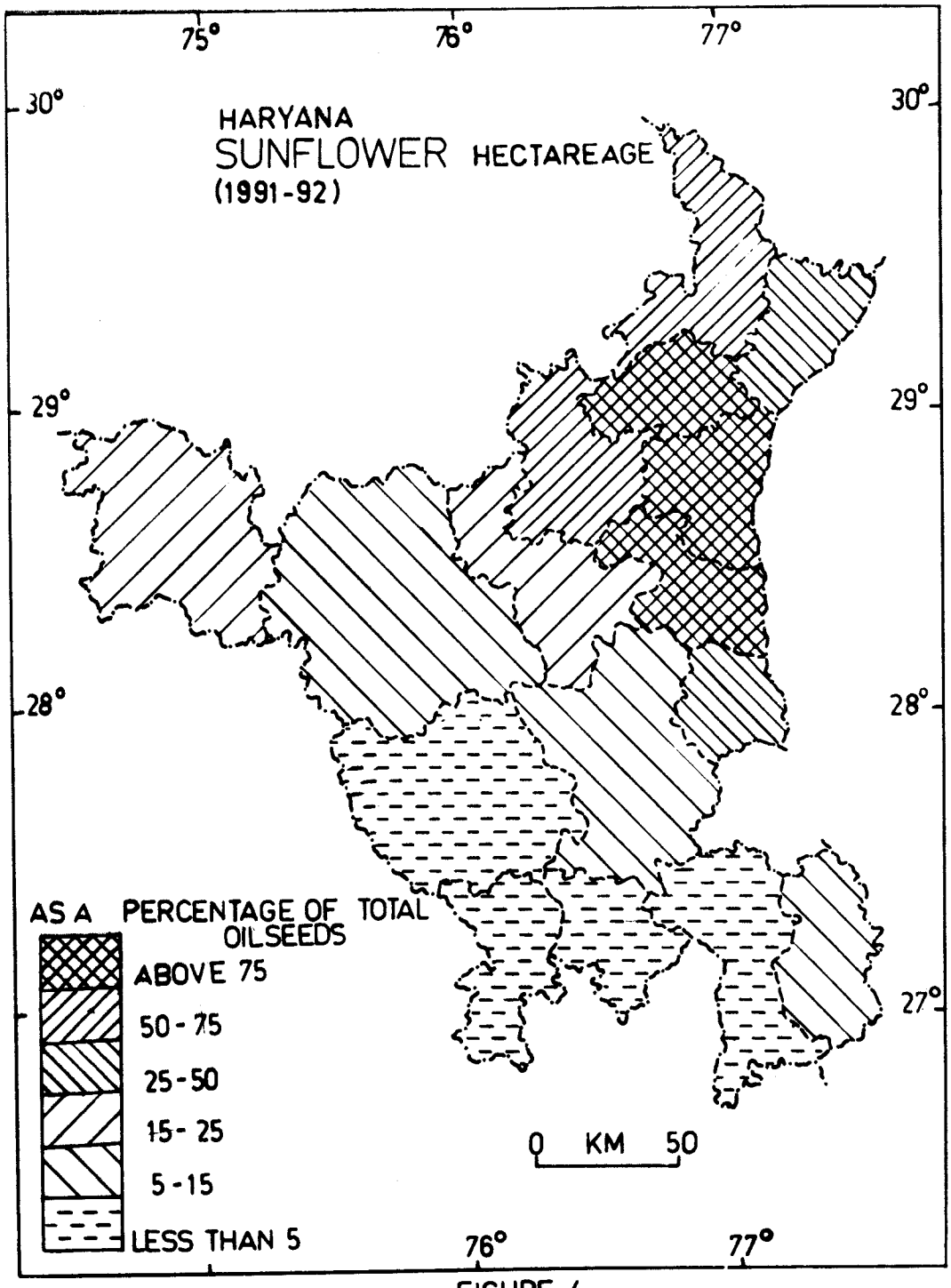
District	Area under oilseeds	Area under Sunflower	Percentage of Oilseeds	Percentage of total cropped area
Ambala	11.0	6.0	54.54	2.51
Yamunanagar	7.0	3.0	42.85	1.54
Kurukshetra	11.6	10.6	91.37	4.16
Kaithal	15.5	8.5	54.83	2.26
Karnal	10.0	8.0	80.00	2.72
Panipat	8.5	6.5	76.45	2.64
Sonepat	26.0	12.0	46.15	7.5
Rohtak	93.0	6.0	6.45	1.15
Faridabad	27.5	1.5	5.45	0.59
Gurgaon	79.4	0.4	0.5	0.13
Rewari	63.5	0.5	0.8	0.25
Mahendergarh	81.5	0.5	0.6	0.19
Bhiwani	106.0	1.0	0.95	0.15
Jind	5.0	7.0	20.0	1.62
Hissar	129.0	16.0	12.40	1.68
Sirsa	77.5	12.5	16.12	2.12
Total	782.0	100.0	12.78	1.68

CONCLUSIONS AND SUGGESTIONS

To conclude, sunflower cultivation could not make signfficant impact in the areas of traditional oilseeds regions, while in other districts, it has made a rapid progress (where traditional oilseeds were not much in practice). These districts have made a rapid progress in growing sunflower. From 1990-91 to 1991-92, the area under total oilseeds has increased by about 62.81 per cent, while sunflower contributes 16.71 per cent. In 1990-91, sunflower was just 3.64 per cent (as a percentage of total oilseeds); this figure increased to 12.78 per cent (about 351 per cent increase) in 1992. The following are the main reasons why it could not make much progress in southern districts of Haryana:

(i) As already stated, sunflower cultivation needs at least 50cm. of rainfall and it thrive well if irrigation facilities are also available. That is the main reason for its concentration in areas of high rainfall, which is further supported by high intensity of irrigation. In these areas, it is cultivated as zaid Rabi crop. In southern districts, due to paucity of moisture availability, this crop is not included in cropping pattern.

(ii) The net return form the sunflower cultivation is highly variable. It was Rs. 4322.50 per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HARYANA
SUNFLOWER HECTAREAGE
(1991-92)
AS A PERCENTAGE OF TOTAL OILSEEDS
ABOVE 75
50 - 75
25 - 50
15 - 25
5 - 15
LESS THAN 5
0 KM 50

FIGURE 4

hectare and Rs. 1712.50 per hectare respectively in northern and southern districts, while the state average was Rs. 3137.50 per hectare (Haryana Farming, Vol. XXII, Jan., 1993, No. 1).

(iii) On the basis of the yield of sunflower, it has also been observed that the yield in southern districts was minimum.

SUGGESTIONS

The following suggestions can be made regarding sunflower cultivation in Haryana:

(a) The main problem which the farmers are facing during recent years is the lack of proper market and the farmers are being forced to sell their product at a low price. So, proper market facilities should be provided to the farmers. Not only this, but awareness among the buyers and farmers should be made, because it is the key to the progress of sunflower cultivation. Government should fix a higher rate of sunflower crop, so that the farmers can get high return from their product.

(b) Sunflower crop is disease prone, which affects its yield adversely. So, the proper supply of insecticides at cheap rate to the farmers should be made available. The main diseases of sunflower are cutworms, headborer and hairy caterpillars, for which the following insecticides have been recommended:

(i)	Cutworms	- fanvalerate
(ii)	Head bores	- endosulfan
(iii)	Hairy caterpillars	- endosulfan

(c) The farmers are facing the problem of poor quality seeds. A proper supply of quality seeds at low prices should be made available to the farmers.

The above recommendations should be taken into practice so that the cultivation of a new variety of oilseeds, i.e., sunflower, could be made popular and make rapid progress in the state.

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ADDRESS OF THE AUTHORS

1. Dr. Vijay Kumar, Reader,
Department of Geography
Kurukshetra University, Kurukshetra - 132 119

2. Raj Kumar, Research Scholar,
Department of Geography
Kurukshetra University, Kurukshetra - 132 119