Culturing colza in Gilan Province, the problems and solutions

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Oil seeds are the second main nutrient resources in the world after cereals. The yield of these seeds in the world in the year 2000 has been 39,518,748 tons which is distributed among continents as follows: 44.1 percent in Asia, 30.4 percent in Europe, 20.24 percent in north and central America 4.6 percent in Australia and 46 percent in Africa.according to FAO issued statistics only 10 percent of the countries in the world have the highest yield of colza.China is the leading country with 10 million tons oil production, Canada is the second with 7.1 million tons and India is the third with 6.1 million tons among the countries all over the world.

Iran has produced 4 percent of the world colza Production (about 1709 tons) this year. Nutritionists believe that it is better to gain at least 15 percent of the daily energy the human body needs from fat and this amount of energy should not be more than 30 percent. Researches being done in Iran Nutrient Institute show that 21 percent of the daily energy that an Iranian person needs is gain through consumption of fat. Population growth during last decades is the reason for the increase in the amount of edible oil consumption from 2.5 kilogram per capita to 16.5 kilogram per capita. We estimate that Iran needs about one million tons of edible oil a year but the country can only provide about 8 percent of its need. Iran imports 900,000 tons of oil per year and this has turned the country into one of the biggest importers of the edible oil in the world (Iran spends 1.2 billion dollar per year in order to buy the oil it needs; the amount is still growing) one of the developing politics of agriculture ministry is to produce edible oil inside the country. Among oil seeds colza is becoming universally important in production of edible oil. This plant has 40 to 45 percent oil which has a good quality, with high protein content and fiber ash and all these characteristics have turned it into an economically valuable plant thus colza culturing is recommended in many countries. Colza culturing plan in Iran has been under consideration since 4 years ago. Main reasons for choosing colza are as follows:

1- Capability of the plant to grow in different weather conditions

2- Possibility of involving in the cereals alternative culturing in different regions in Iran

3-the most sustainability with seasons

4- Having high amount of oil content (40_45) which can help the country to provide the needs (more than 90 percent of required the edible oil is imported)

5- The possibility of culturing the plant in rice farm especially in north regions. These fields are not used more than 6 month during a year.

6- Mostly the oil needed in Iran is provided from sunflower, soybean and Carthamus tinctorius which there is no possibility to increase the area of the lands in which these plants are cultured

7- The residues of the process of oil production from colza are used as food for domestic animals like cows. Colza has high amount of protein, energy and fiber ash.

8- Colza can be used in alternation with cereals

9- The abundance of lands with good quality soil

Mean amount of plant oil consumption is about 16 kilogram and 90 percent of this amount is imported, beside; only 16.5 percent of the plant oil needed inside the country is provided domestically and the remaining 73.3 percent is imported. The main goal of the developing plan of the country is to become independent in oil seed production.

Gilan province has 21000 ha of wheat fields and 230000 hectare fields of rice which are not used during 6 or 7 months every year. So these areas can be used to culture colza. The government of Iran wants to be able to provide all the edible oil itself and to reach this goal the country has started to culture colza since 1374-75 in about 6.5 ha area. This has been done experimentally to become confident that colza can grow well in these areas. The government has planed to produce 296 tons of seeds from 636 hectares of fields during 1382-1383, 395 tons of seeds from 436 hectares of fields during 1383-1384 and 729 tones of seeds from 685 hectares of fields.

Production of different kinds of oil seeds in 1346:

- Climatological and structural features of the Gilan province:

- Soil structure features:

The PH of the soil in this province is about 6-7 ant soil texture is medium. Colza in this kind of soil can grow quit well.

- Climate of the province:

The climate in Gilan province is moderate. This region has enough or more than enough rainfall every year so spring variety like PE, Hyola and autumn variety like Okapi and SLM can grow there very well.

Researches show that colza culturing during the fall (from Mehr until Aban) before the arrival of winter is the best time. During this time all fields of rice are empty and the harvesting season of rice is over

- Temperature:

The mean temperature in Gilan is about 20 to 25 centigrade and this is quit good for the colza.

- Culturing method:

Method of colza planting in Gilan is sowing the seeds. For every hectare 10 kilogram of the seed is required they are combined with gravel and distributed all over the field evenly. The concentration of the shrub in the province is estimated about 70 -90 shrubs per square meter.

- Land preparation:

This procedure is done using disk and rotary disk. In order to have a level and flat surface in the field using traditional devices is indispensable in some places

- Fertilizing

Researches show that to gain 3 tones of colza from every hectare of the field we should use 150 kg N, 70 kg P and 10 kg K. These elements are essential for the plant growth.

- Drainage

Colza is cultured in Gilan during fall and the plant remains on the field until next year Ordibehesht. The amount of rainfall in the province is a lot. Rain can cover the fields with shallow water. Using drainage in the fields helps the shrub tolerate heavy rainfalls. Experimental researches show that the distance between drainages is important and can have influence on the growth of the plant.the distance is about 4 meters.

- Tillage

Considering the climate, low availability of mechanical devices to prepare the field and time to culture the plant, minimum tillage is recommended for the plant. In this system paying enough attention to the residuals of the last cultured plants on the soil and weed controlling are very important.

The problems of colza culturing in Gilan:

1- There is no training available for the farmers

2- Not enough machinery is available for preparation of the farm, planting, harvesting and other levels which are between these two levels

3- Not enough amounts of fertilizers are available

4- Large amount of rainfall high moisture content of the air in the region and no drainage in the fields

5- Not having sustainable kinds of plants (variety) with climate of region

6- Growth of weed and pest and disease

7- Not having level and flat fields

8- Small parcels of fields

Good novation for development;

1- Training the farmers about the methods of preparing the field and meanwhile considering the space between furrow and using of seeds.

2- Preventing domestic animals to graze and fool around in the fields and limiting the area on which the plant has been cultured

3- Preparing a schedule to culture different variety.

4- Building appropriate drainage to prevent the land to be covered by water.

5- Finding good variety which can be cultured well under the Climatological conditions of the province

6- Constituting public associations of the mechanization therefore culturing and harvesting of this plan can be done mechanically

7-preparing and distributing getting and giving economical supports to the farmers

8- Insuring the farmers that their productions will be bought.

Chart 1

sunflower	soybean	colza	cottonseed	Carthamus tinctorius	total
1447	2055	0	70408	53	73963

Chat 2

sunflower	soybean	colza	cottonseed	Carthamus tinctorius	total
24677	102138	200	217076	0	344091

Chat 3

sunflower	soybean	colza	cottonseed	Carthamus tinctorius	total
33811	140968	69255	146750	5414	396198

Chat 4

Year	Area of culturing(ha)	Area of harvesting(ha)	Yield(ton)
1382-83	1379	636	296
1383-84	1289	436	395
1384-85	1328	685	05

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