Preparation of Field

Cultivation of alsi can successfully be done in mud clay (matyar) and loamy soil. After harvesting Kharif crop, one plough should be done by disc harrow. Then after, use cultivator or local plough twice and level the field well.

Details of the advanced species of Alsi

Details of progressive variety of Alsi

SN	Variety	Year of Redemption	Duration of Ripening (In days)	Yield (qtl/hectare)		Oil %age	Remarks
				Irrigated	Non-Irrigated		
(A)	**For the purpose of seed**						
1	Garima	1985	125-130	20-25	-	42-43	Gerui/Ratua resistant and ukatha bearing. For plains.
2	Sweta	1985	130-135	15-18	10-15	43-44	-
3	Shubhra	1985	130-135	20-22	10-12	43-45	For whole UP. Gerui/Ratua, Ukatha and Ara fly resistant.
4	Laxmi-27	1987	115-120	15-18	10-15	43-45	Recommended for Bundelkhand. Gerui/Ratua resistant
5	Padmini	1999	120-125	15-18	12-15	43-45	Recommended for Bundelkhand. Fungus resistant
6	Shekhar	2001	135-140	20-25	14-16	43-43	Suitable for plains
7	Sharda	2006	105-110	16-18	-	43-45	White bukni resistant
8	Mau-Azad	2008			-	43-45	Jhuls resistant
(B)	**Dual-purpose**						
1	Gaurav	1987	135-150	18-20	Resha 12-14	42-43	Suitable for plains
2	Shikha	1997	135-150	20-22	Resha 13-15	42-41	Suitable for plains

3	Rashmi	1999	135-140	20-24	Resha 14-15	41-42	Suitable for plains
4	Parvati	2001	140-145	20-22	Resha 13-14	41-42	Recommended for Bundelkhand, Ukatha,Gerui/ Ratua and fungus resistant
5	Ruchi	2011	132-135	22-25	Resha 15-16	40-42	Recommended for Bundelkhand, Ukatha,Gerui/ Ratua and fungus resistant

Sowing Time

Suitable time of sowing is last week of October to first week of November.

Seed Rate

30 kg per hectare for seed purpose and 50 kg per hectare seed for dual purpose is required.

Distance

Distance between furrows to furrows should be 25 cm for variety of seed purpose and 20 cm for dual purpose seed.

Seed Treatment

Infestation of Jhulsa and Ukatha is caused by both seed and soil in early stage in Alsi crop. From protection of it, sow the seed after treatment with 2.5 gm thiram or 2 gm carbandazim per kg seed.

Quantity of Fertilizer

To get good yield in non-irrigated area, use 50 kg nitrogen, 40 kg phosphorous and 40 kg potash per hectare and in irrigated area, use 100 kg nitrogen, 60 kg phosphorous and 40 kg potash per hectare. In case of non irrigated condition, half of the quantity of nitrogen and full quantity of phosphate and potash and in irrigated condition, half of the quantity of nitrogen and full quantity of phosphorous should be given 2-3 cm below the seeds in furrows by funnel (chonga). Remaining quantity of nitrogen should be used at the time of first irrigation in irrigated condition. Use of phosphorus as super phosphate is more beneficial.

Irrigation

This crop is often sown in non irrigated condition but if the means of irrigation is available, irrigation two times, first at the time of flowering and second at the time of grain formation results in higher yield.

Crop Protection

(A) Main Insects

- **Gallmiz**

Maggot of this insect enters the blooming buds and eats androecia due to which grains are not formed.

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- **Haired Larva**

The larva is black and orange in color and the whole body is covered with hair. In early stage, the larva lives in cluster and eats the leaves and spread in the whole field afterwards and eat the leaves. . In case of intense menace, the whole plant becomes leaf less.

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SN	Insect Name	Stage of Crop	Economic Loss level
1	Gallmiz	At the time of pod formation	5% infested crop.

Control Measures

- Deep plough in summers.
- Use balanced fertilizers.
- For control of gall miz, resistant variety such as Neelam, Garima, Sweta should be sown.
- Sowing till 3rd week of September reduces the menace of gall miz.
- Mix cropping with gram, rye/ mustard and Kusum also reduces the menace of gall miz.
- If the insect menace has crossed economic loss level, use following insecticides:
- For control of gol miz and haired larva, spray methyl-o-dematon 25% EC 1 or monochrotofos 36 % solution at the rate of 1.0 liter per hectare dissolved in 600-750 liter water.
- For control of haired larva, spray malathion 5% DP at the rate of 20-25 kg per hectare or malathion 50% EC 1.50 liter or di chlorvas 76% EC 500 ml or quinolfos 25% EC at the rate of 1.25 liter per hectare dissolved in approximately 600-750 liter of water.

(B) Critical Disease

- **Ukatha**

  Infested leaves of the plants start turning yellow from bottom to up and the whole plant dry afterwards.

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- **Alternaria Leaf Blight**

  In this disease, dark brown colored spot are formed on leaves and pods which clearly appear as ring shaped on the leaves. In case of intense menace, the spots are jointed. This burns the whole leaf. This disease also affects the stem, branches, shoots and pods. In case of intense menace, pods turn black in color and die.

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- **Gerui**

  White blisters are formed on the lower surface of the leaves because of which the leaves turn yellow in color and start drying.

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- **Powdery Mildew**

  In this disease, white powder appears on the leaf due to which the leaves become dry.

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Control Measures

- **Seed Treatment:**
    - For control of Ukatha disease, sow the seed after treatment with 1% triderma viridi/trichoderma harzianum 2% WP at the rate of 4 gram per kg of seed.
    - For control of alternaria leaf blight, sow the seed after treatment with thiram 75% WS at the rate of 2.5 gram per kg of seed.

- For control of Ukatha disease, sow the seed after treatment with 1% triderma viridi/trichoderma harzianum 2% WP at the rate of 4 gram per kg of seed.

- For control of alternaria leaf blight, sow the seed after treatment with thiram 75% WS at the rate of 2.5 gram per kg of seed.
- **Soil Treatment:**

    - For control of soil and seed borne diseases, mix the bio pesticides trichoderm biridi 1% wp or trichoderma harzanium 2% wp at the rate of 2.5 kg per hectare with 60-75 kg of rot farm yard manure, sprinkle light water on it and keep it in shade for 8-10 days. Mix it in the soil at the time of last plough before sowing. This will help in management of seed/soil borne diseases.

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- **Foliar Treatment:**

    - For control of alternaria leaf blight and Gerui disease, spray 2kg of mancozeb 75% wp at the rate of 2 kg per hectare dissolved in 600-750 liter of water.
    - For control of powdery mildew, spary soluble sulphur 80% WP at the rate of 2.50 kg per hectare dissolved in 600-750 liter of water.

- For control of alternaria leaf blight and Gerui disease, spray 2kg of mancozeb 75% wp at the rate of 2 kg per hectare dissolved in 600-750 liter of water.
- For control of powdery mildew, spary soluble sulphur 80% WP at the rate of 2.50 kg per hectare dissolved in 600-750 liter of water.

(C) Critical weeds

Bathua, Santhi, Krishna neel, Hiran khuri, chatri-matri, Akra, forest carrot, gajri, pyaji, khartua, satyanaashi etc.

Control Measures

For weed control, spray uniformaly pendimethylene 30% Ec at the rate of 3.30 liter per hectare dissolved in 800-1000 liter water within 2-3 days of sowing through flat fan nozzle.

Important Points

- Use certified seeds of recommended variety.
- Use fertilizers in balanced quantity.
- If the irrigation facility is available, must irrigate at the time of flowering.
- For control of gal miz, spray any one insecticide at the time of pod formation.