STANDARD CULTIVATION PROCEDURE FOR ASHWAGANDHA

INTRODUCTION:→ WITHANIA SOMNIFERA (Ashwagandha) belongs to FAMILY - SOLANACEAE An erect branched under shrub up to 1.25 m in height, minutely stellate tomentose. Root fleshty, tapering, whitish brown. Leaves ovate, flower greenish. It grows in dried parts in subtropical regions. COMMON NAMES: Asgandh, Nagouri Asgandh, Punir.

VARIETIES: →

Jawahar Asgand-20 and Jawahar Asgand-134: High alkaloid variety. It is developed by CJawaharlal Nehru Krishi Vishwavidyalaya, Madhya Pradesh. Plant height is short and is known for its higher density planting. The crop yields in 180 days with a total withanolide content of about 0.30 per cent in dry roots.

Raj Vijay Ashwagandha-100: It is also developed by CJawaharlal Nehru Krishi Vishwavidyalaya, Madhya Pradesh.

Rakshita and Poshita: Developed by CSIR-CIMAP, Lucknow and are high yielding varieties.

WSR: Developed by CSIR-Regional Research Laboratory, Jammu.

Nagori: It is a local variety with feature of having starchy roots.

CULTIVATION:

SOIL AND CLIMATE: → W. somnifera grows well in sandy loam or light red soil, having pH 7.5-8.0 with good drainage. It can be cultivated between 600-1200 m altitude. The semi-tropical areas receiving 500-750 mm rainfall are suitable for cultivation of this rained crop. The crop requires dry season during its growing period. Temperature between 200C to 350C is most suitable for cultivation. Late winter rains are conducive for the proper development of the plant roots

LAND PREPARATION:→ Ashwagandha is usually grown in fields which are not well covered by the irrigation systems. The field on which food crops cannot be taken profitably for the above reason may be used for Ashwangandha cultivation. The soil of the field selected for Ashwagandha cultivation is well pulverized by ploughing, disking and/or harrowing. The field may be then levelled by the application pata.

NURSERY RAISING AND PLANTING: → The crop can be sown either by broad casting or in lines. Live to line method is preferred as it in creases root production and also helps in performing intercultural practices properly. The seeds are usually sown about 1-3 cm deepin June- July in nursery. A light shower after shower after sowing ensures good germination. About 500-750 gm seeds are sufficient for 1 ha. field. Seeds can be treated, with Thiram or Indofil or Dithane medicinal plants - 45 (@ 3 gm/kg seed), before sowing to protect seedlings from seed borne diseases. The seedling after 25-35 days after sowing can be transplanted in the field marinating 60 x 60 cm. Spacing between the plants & the rows. It may be noted that since Ashwagandha is a late rainy season Kharif crop, the time of sowing is decided by date of arrival of monsoon in that area

THINNING AND WEEDING:→ The seeds sown by broadcasting or in the line in furrows should be thinned out by hand at 25-30 days after sowing to maintain a plant population of about 30-60 plants per square meter (about 3.5 to 6 lakh plants/hectare). The plant density to be used may depend on the nature and fertility of the soil. On the marginal land the population is kept high. If some fertiliser (N:P:K::20:20:0) is applied then the population should preferably be kept at a lower level. One hand weeding at an early stage is sufficient to enable the Ashwagandha plants to take over the growth of weed which get suppressed by its smothering effect.

MANURES, FERTILISERS AND PESTICIDES:→ The medicinal plants have to be grown without chemical fertilizers and use of pesticides. Organic manures like, Farm Yard Manure (FYM), Vermi-Compost, Green Manure etc. may be used as per requirement of the species. To prevent diseases, bio-pesticides could be prepared (either single or mixture) from Neem (kernel, seeds & leaves), Chitrakmool, Dhatura, Cow's urine etc. IRRIGATION Light shower after transplantation ensures establishment of seedlings. There is no need of irrigation if rainfall is at regular intervals. Excessive rainfall/water is harmful to the crop. Life saving irrigations may be applied, if required.

HARVESTING/ POST HARVESTING The plants start flowering and bearing fruits from December onwards. The crop is ready for harvest in January-March at 150 to 180 days after sowing. The maturity of crop is judged by drying out of leaves and yellow red berries. The entire plant is uprooted for roots which are separated from aerial parts by cutting the stem 1-2 cm above the crown. The roots are then either cut transversely into small pieces (7 to 10 cm) or dried as it is in the sun. About 650-800 kg roots can be obtained from 1 ha on drying it comes to 350-435 kg. Berries are hand plucked separately. They are dried and crushed to take out the seeds. The dried roots, entire or transversely cut into smaller pieces, have to be further cleaned, trimmed and graded. The roots are beaten with a club which removes adhering soil and breaks off the thin, brittle lateral rootlets. Lateral branches, root crown and stem remains on roots are carefully trimmed with the help of knife.

YIELD: → On an average yield from one hectare land under commercial cultivation is approx 3- 5 quintals of dried roots and 50-75 kg seeds.