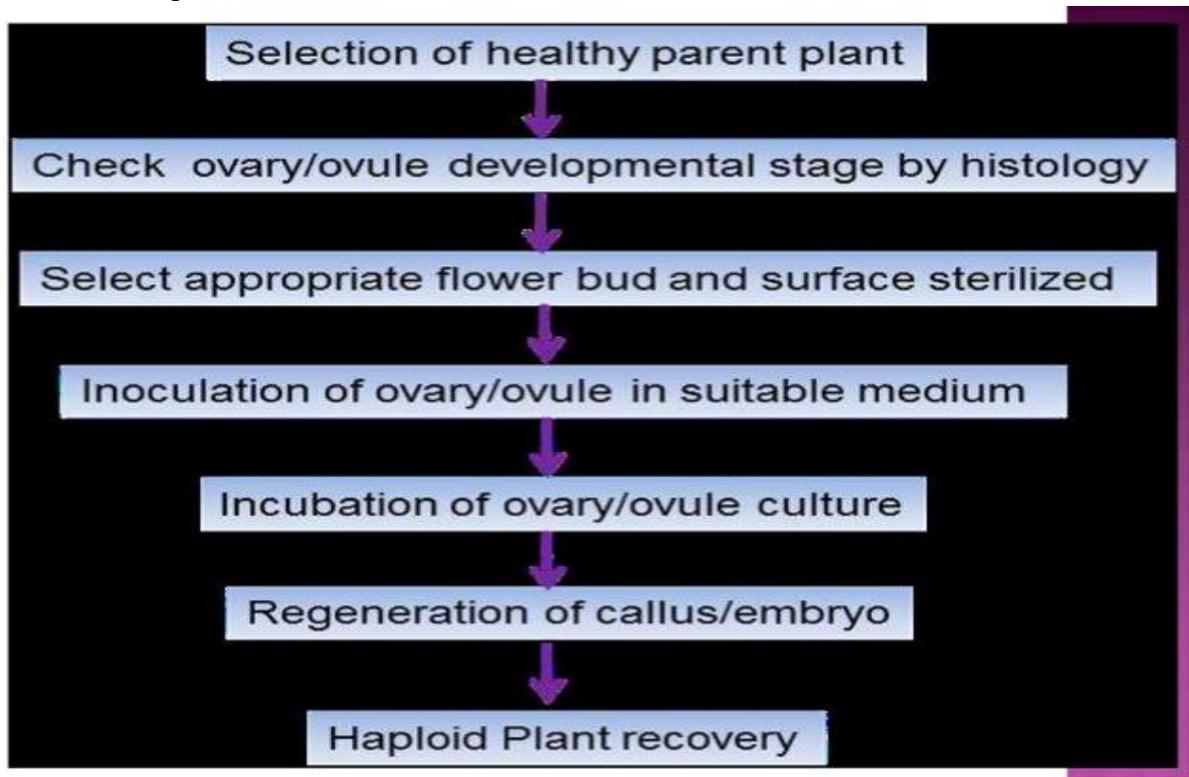


**Gynogenesis:**

- Haploid plants can be developed from ovary or ovule cultures. It is possible to trigger female gametophytes (megaspores) of angiosperms to develop into a sporophyte. The plants so produced are referred to as gynogenic haploids.
- Gynogenic haploids were first developed by San Noem (1976) from the ovary cultures of *Hordeum vulgare*. This technique was later applied for raising haploid plants of rice, wheat, maize, sunflower, sugar beet and tobacco.
- In vitro culture of un-pollinated ovaries (or ovules) is usually employed when the anther cultures give unsatisfactory results for the production of haploid plants.
- After removal of calyx, corolla and stamens, the ovaries are subjected to surface sterilization.
- Whenever a liquid medium is used, the ovaries are placed on a filter paper or allowed to float over the medium with pedicel inserted through filter paper. The commonly used media are MS, White's, N6 and Nitsch, supplemented growth factors. Production of gynogenic haploids is particularly useful in plants with male sterile genotype. For such plant species, this technique is superior to another culture technique.



Outline of Gynogenic haploids

**Limitations of Gynogenesis:**

1. The dissection of unfertilized ovaries and ovules is rather difficult.
2. The presence of only one ovary per flower is another disadvantage. In contrast, there are a large number of microspores in one another.