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THC-Resin Extraction

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Since so much time, labour, and cost has gone into the production of each plant, growers do not overlook utilization of the "shake" or leaves. Extraction involves the process of removing the essential oil, THC resin, from the leaves remaining on the plant and those removed during pruning. This is accomplished through the use of a solvent in which the oil will dissolve, which is later separated from the plant material by passing it through an appropriate filter. The best solvent found to date is chloroform. It is non-flammable, which makes it safer to handle than ethanol. Further, it has a low boiling point (61 C., 142 F.), and a residue after evaporation of .0005 percent. This low residue percentage means that virtually no trace solvent remains to contaminate the oil and cause an aftertaste, which is usually a problem encountered with ethanol unless time-consuming distillation processes are used. Another important concern is that chlorophyll is relatively insoluble in chloroform, eliminating the heavy "green" taste that always results from ethanol extractions. To initiate the extraction process, the leaves must be dried thoroughly. This can be done by placing them on fairly absorbent paper, such as newsprint, in a good sunny spot near a window. (Fresh newsprint paper can be obtained in most art supply stores. The lead content of ordinary newspapers makes them unsuitable for this purpose.) The leaves are then turned over every few days to ensure complete drying. When they are sufficiently and completely dried, the leaves should be brittle and crumble easily between the fingers. They are then placed in a blender or food processor and ground to a fine powder. Studies have shown that to achieve 90 percent extraction of the oil, the plant material must be powdered. ["Studies"?! Don't ask... -ed.] This is because nearly as much oil is contained in non-glandular internal tissues as is produced by the glandular tri-chomes. Next, a filter (a coffee filter will do) is placed over a clean Pyrex beaker or Corning Ware dish. The plant material is piled about halfway to the top of the filter, and the rest of the material (if any) is saved in an air-tight container. Pour approximately 200 ml of chloroform into the blender or food processor and slosh it around the sides. This rinses out any oil that may have adhered to the container's walls. Chloroform is poured from the blending container over the plant material until it reaches the top of the filter (adding more chloroform if needed). When the chloroform has completely filtered in to the beaker or dish, this process is repeated by adding chloroform until it again reaches the top of the filter. Two extractions of the same plant material are usually sufficient to remove all of its THC oil. The plant material is discarded; the same procedure is repeated until the beaker or dish becomes full of solvent. Now the beaker or dish is placed on an electric stove or hot plate and heated slowly to a very low boil. When the chloroform is being evaporated, the area must be completely ventilated! In the early days of medicine, chloroform was used as an anaesthetic until harmful side effects [such as liver damage! -ed.] were discovered, so it is clear that extreme care must be used when evaporating this solvent. After the solvent has been evaporated, the same procedure is repeated until all of the plant material has been treated. The oil is collected and stored in a glass pipette. These can be obtained at a scientific supply and are inexpensive. The oil is drawn into the tube (this may be easier if the oil is first heated a bit), and the tube capped at both ends. Resin is best stored inside airtight containers and in an area of low light and humidity.