



Cone Collection Workshop Vocabulary

By: Teri Griffis

CAL FIRE

L.A. Moran Reforestation Center

5800 Chiles Road

Davis, CA 95618

530-753-2441

Teri.Griffis@fire.ca.gov

After-ripening - storing cones under controlled conditions of temperature, RH, and air flow to improve cone and seed maturity

Bract - a modified leaf which extends underneath a seed bearing scale (DF, Shasta RF)

Casehardened - inability of cone scales to flex caused by too rapid drying, insects or disease

Cotyledon - primary leaf of the embryo

Dead-filled seed - the complete deterioration of all seed contents

Dormancy - a physiological state in which a seed capable of germination does not

Embryo dormancy - conditions within the embryo

Seed coat dormancy - impermeable to gas and moisture exchange

Embryo - rudimentary plant within a seed

Empty seed - a seed that is hollow, corky, pitchy or filled with larvae

Epicormic - a shoot arising from a dormant bud on a stem or branch

Fertilization - fusion of the sperm nucleus w/ egg cell nucleus & doubling of chromosomes (for 1-yr species - this occurs in early summer; 2-yr species this occurs in spring of the 2nd year)

Filled seed - a seed containing all tissues essential for germination & considered potentially viable

Genotype - hereditary constitution

Hypocotyl - embryonic stem below the cotyledons

Megagametophyte - storage tissue that provides nutrients to the developing embryo. Also sometimes referred to as endosperm

Orthodox - can be dried without losing viability

Phenotype - visual appearance of having desirable characteristics (genotype + environment)

Periodicity - number of years between bountiful crops

Pollen cone - male reproductive structure produces pollen grains

Pollination - transporting of pollen from male cone to female cone (in conifers-wind pollinated)

Pre-conditioning - facilitating after-ripening in preparation for kilning +/- tumbling (racking & turning sacks)

Primordia - rudimentary structure at the earliest stages of development

Progeny - offspring of plants

Radicle - primary root of the embryo

Recalcitrant - resistance to drying and storing (must be fresh collected when available)

Seed - a matured ovule containing an embryo & megagametophyte enclosed by a protective seed coat which is capable of developing into a plant under favorable conditions

Seed cone - female reproductive structure usually two seeds borne on each scale spirally arranged around a central axis

Seed lot - a specified quantity of seed of reasonably uniform quality

Seed source - the place where the seeds were collected: SZ, elev, T,R,Sec

Seed zone - in Calif. arbitrary area designated on the basis of biogeoclimate regions & latitude

Serotinous - cones remaining on a tree without opening for one or more years after maturation

Stratification - pre-germination treatment of seeds to break dormancy and to promote rapid and uniform germination

Viable - capable of germinating - **viable seeds are filled but not all filled seeds are viable**