

periment in the wind. Remove the wing from a seed and toss it and an uninjured seed into the air together. What do you infer from these experiments?

SUGGESTIONS. — Few subjects connected with the study of plant-life are so useful in schoolroom demonstrations as germination. The pupil should prepare the soil, plant the seeds, water them, and care for the plants. **10.** Plant seeds in pots or shallow boxes. The box should not be very wide or long, and not over four inches deep. Holes may be bored in the bottom so it will not hold water. Plant a number of squash, bean, corn, pine, or other seeds about an inch deep in damp sand or pine sawdust in this box. The depth of planting should be two to four times the diameter of the seeds. Keep the sand or sawdust moist but not wet. If the class is large, use several boxes, that the supply of specimens may be ample. Cigar boxes and chalk boxes are excellent for individual pupil. It is well to begin the planting of seeds at least ten days in advance of the lesson, and to make four or five different plantings at intervals. A day or two before the study is taken up, put seeds to soak in moss or cloth. The pupil then has a series from swollen seeds to complete germination, and all the steps can be made out. Dry seeds should be had for comparison. If there is no special room for laboratory, nor duplicate apparatus for every pupil, each experiment may be assigned to a committee of two pupils to watch in the schoolroom. **11.** Good seeds for study are those detailed in the lesson, and buckwheat, pumpkin, cotton, morning glory, radish, four o'clock, oats, wheat. It is best to use familiar seeds of farm and garden. Make drawings and notes of all the events in the germination. Note the effects of unusual conditions, as planting too deep and too shallow and different sides up. For hypogeal germination, use the garden pea, scarlet runner or Dutch



FIG. 29. — CONES OF HEMLOCK (ABOVE), WHITE PINE, PITCH PINE.