

## Knowledge Base for NAB Counters

### 1 – Good microscope skills

- Able to measure field diameter
- Able to measure diameter of pollen grains or spores
- Able to focus through various focal plains
- Able to adjust diaphragm for optimum resolution
- Able to use oil immersion objective
- Minimum spec's of a suitable microscope
- Microscope maintenance

### 2 – Knowledge of Air Sampling and Analysis

- Able to explain basic principles of sampler operation (Burkard or Rotorod)
- Able to prepare slides, drum, or rods for daily (or weekly) changing
- Knowledge of staining procedures for pollen and final slide preparation
- Able to accurately count pollen and convert the count to a concentration
- Sampler location parameters
- Sampler maintenance and calibration
- Supplies and materials

### 3 – Knowledge of Pollen Morphology

- Able to identify common pollen types
- Able to determine type of pollen aperture
- Able to distinguish between polar and equatorial views
- Able to focus on the pollen surface
- Able to determine types of surface ornamentation

### 4 – Knowledge of Pollen Seasons

- Knowledge of spring, summer, and fall pollen seasons
- Familiarity with both common and scientific names of common pollen types
- Knowledge of approximate time of the year when certain species release pollen
- Knowledge of the major pollen types for the geographic area
- Purpose for performing pollen counts

### 5 - Knowledge of Spore Morphology

- Able to identify common spore types and spore categories
- Able to identify attachment scars, germ pores, and other spore features
- Able to determine types of surface ornamentation or appendages
- Able to distinguish septate from non-septate spores

### 6 - Knowledge of Spore Dispersal and Fungal Biology

- Familiarity with the dispersal mechanisms for fungal spores
- Able to identify components of the "Dry Air Spora"
- Knowledge of the meteorological conditions associated with the "Dry Air Spora"
- Knowledge of the types of spores found during rainfall
- Knowledge of the types of spores found during the day versus those found at night and early morning