lead-lag ballasts, the current comes on and off at the same rate but alternates between the tubes. You should ask your lamp dealer for the non-stroboscopic lamps even though such lamps may cost a little more than the stroboscopic type.

The stripping room work bench should be high enough to reach the lower edge of the closed hand of a worker standing next to the bench. Build the bench to suit the tallest worker; then the other workers can be adapted to it by arranging boards or some other type of platform for them to stand on.

Install the lighting units approximately 3 feet above the stripping bench; however, this height will vary depending on bench and worker height. A tall worker will need to have the lamp somewhat higher so that it will be out of his way. The center of the lamp should be over the bench and about one foot back from the front edge of the bench. Adjust the light to avoid any direct glare into the stripper's eyes. In some cases you may need to tilt or raise the lamp to reduce glare.

You can also use non-selective diffusers to eliminate glare from the grader's field of vision. Install the light fixtures the full length of the table, but with about 6 inches between fixtures. This spacing will avoid any areas of reduced light intensity. Have the stripping room wired by a competent electrician using approved electrical materials. Circuits with convenient outlet boxes are generally employed so that the fixtures can be disconnected and used in another location when needed. Lighting circuits should be of No. 12 wire, controlled by wall switches and protected by 20-ampere fuses or circuit breakers. One such circuit will serve up to 12 lighting fixtures containing two 40-watt tubes each.

Light Maintenance

It is not enough to install a good lighting system; it must be maintained for satisfactory service. Clean the tubes as often as necessary to help maintain light levels. Remove dust from the reflecting surface of the fixture. Inspect all lighting equipment at frequent intervals to insure that it is in good working order and to facilitate the prompt replacement of defective or inferior tubes. In lighting systems specifically designed for tobacco lighting, all fluorescent tubes must be replaced by identically the same type of tubes or the proper light quality will not be maintained. You may wish to keep a few extra tubes on hand as replacements.
IMPROVING LIGHT CONDITIONS FOR STRIPPING TOBACCO

By Carl M. Clark and Gerald M. White

You need uniform light of a special quality to help you do a good job of stripping tobacco. Indirect daylight from north skylights or windows may be satisfactory under ideal conditions, but natural light varies a lot, depending on the type and placement of skylights or windows, the time of day, and weather conditions. Therefore, using daylight usually results in an unsatisfactory job of stripping.

You can get proper lighting for stripping tobacco from electric lights in a room from which you keep out the daylight. Ordinary electric light bulbs and fluorescent tubes are not satisfactory, however, because they do not provide the right kind of light to reveal the true tobacco leaf colors as seen under ideal daylight conditions. For that purpose you need special fluorescent lighting.

RECOMMENDED LIGHT CONDITIONS

Research at the University of Kentucky Agricultural Experiment Station has shown that at least three major factors are essential in getting the desired light conditions for tobacco grading. These are (a) the quality or color balance of the light source, (b) the quantity or amount of light provided on the work surface, and (c) the color of the background and other surroundings.

Light Quality

The standard for color quality of illumination in tobacco grading is the color and energy distribution of light from a moderately overcast north sky. Desired specifications for fluorescent light tubes to be used in tobacco-grading work are given in Kentucky Agricultural Experiment Station Progress Report 154, “Recommendations for Grading Tobacco Under Fluorescent Light Sources.” This report outlines specifications for light sources which, through experiments, have been found to be acceptable for general use in grading and sorting tobacco.

The specifications are rather technical; however, all you need to do is to ask your dealer for the kind of fluorescent tubes that meet the Experiment Station’s recommendations. These tubes are available through local farm supply stores and rural electric cooperatives. Many farmers who already have ordinary-type fluorescent lights in their stripping sheds can greatly improve their lighting systems by replacing their present tubes with those which have been found to have the desired color balance recommended for tobacco grading.

Quantity of Light

Research indicates that tobacco can be stripped and graded satisfactorily under light intensities ranging from 60 to 150 footcandles; however, for judging tobacco most farmers, graders, and buyers seem to prefer 100 footcandles of light. Two-tube fluorescent fixtures (with 40-watt tubes) placed approximately 3 feet over the stripping bench will normally provide light intensities near the lower end of the 60- to 150-footcandle range. Although not the best, this should still provide plenty of light for stripping operations.

Color of Bench and Background

A part of the light available at the work level on a stripping bench is reflected light. This light is reflected off the surroundings onto the work area and is an addition to that light from the electric lamp which falls directly on the bench surface. Any color in the background surfaces will cause a distortion in the reflected light energy and thus will distort the color of the tobacco. For this reason it is recommended that background surfaces and the bench in a stripping room be painted light neutral grey with a flat finish. A light tone of grey results in more light being reflected off the walls and other surroundings than where the background color is the natural wood or concrete block. This helps build up the amount of light around the edge of the work area—thus providing a more uniform quantity of light over the total work area, particularly toward the back side of the work bench.

LIGHTING EQUIPMENT AND INSTALLATION

The recommended lighting unit for a tobacco stripping room is a standard fluorescent fixture with a white reflecting surface equipped to take two 40-watt fluorescent tubes of the type which meets the Experiment Station’s recommendations for use in grading tobacco. Rapid-start fixtures or those with regular starters may be used; however, some difficulty may be experienced in starting either of these lamps when room temperatures are below 50 degrees F. If so, a low temperature ballast should be used.

The fixtures should also employ a lead-lag type to prevent any wavering or flickering of the light owing to what is known as a stroboscopic effect. In stroboscopic lamps, the electric current comes on and off 120 times a second in both tubes at the same time, thereby resulting in a flicker. In non-stroboscopic lamps with