

Crop Management Standards

INTEGRATED PEST MANAGEMENT

Critical Standards for All Standards

- Keep field/tract records of all agrochemical applications, including in the greenhouse, transplant water and field. This includes:
 - o CPA/agrochemical common name²
 - o Active Ingredient²
 - o Application date
 - o Application Method
 - o Rate
 - o Name of Applicator
 - o Field name and location
 - o EPA Number²
 - o REI²
- Use only pesticides that have been approved by the EPA for use on tobacco (labeled)². Always refer to your grower contract; some buyers may prohibit use of agrochemicals which are labeled for tobacco.

Additional Standards

High Risk

- Keep field/tract records of all agrochemical applications, including greenhouse, transplant water and in the field. This includes:
 - o Pest targeted or reason for application

Medium Risk

- Select tobacco variety based on, disease resistance, curing characteristics, cured leaf quality, and yield, and maintain records or documentation of sources you used to select your tobacco varieties (examples are: seed company literature, university production guides, buying company recommendations, etc.)³
- Have a documented scouting program for pests and record the scouting information by field/tract following GAP standards.⁴ Records should include the following:
 - o Date of scouting
 - o Pests observed
 - o Percent of plants affected/infested
 - o Crop protection agent applications made by field and date
 - o Conduct a follow-up of your pest control practices to determine the effectiveness of the action taken

Low Risk

- In a single field do not plant tobacco annually. Instead, use a rotation of no more than two years of tobacco followed by at least two years in other non-Solanaceae crops (Solanaceae crops include tomatoes, eggplant, and peppers).⁵

²See Resource #1 on page 4

³See Resource #2 on page 4

⁴See Resource #3 on page 4

⁵See Resource #4 on page 4

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NUTRIENT MANAGEMENT

Critical Standards for All Certifications

- If required in your watershed, comply with nutrient management regulations as applicable.⁶

Additional Standards

High Risk

- Keep records of all nutrient applications—greenhouse, transplant water, and field (soil and foliar), which includes date of fertilizer application, application timing (pre-plant, side-dressing, transplanting, or foliar), type of fertilizer applied (N-P-K), and rate of application.
- It is preferable not to use muriate of potash but if using muriate of potash, application should be made before January 1 of the production year.⁷

Medium Risk

- Make fertilizer application decisions using soil test results that are no more than three years old
- If using animal manure or litter for fertilizer, have it tested for nutrient content to determine appropriate rates. Guidelines on the use of animal manure in tobacco production can be found in the University of Kentucky Burley Tobacco growers guide.⁸

VARIETY SELECTION AND CROP AND OPERATIONS MANAGEMENT

Critical Standards for All Certifications

- Whether you produce or purchase your tobacco plants, keep records of transplant/greenhouse seeding dates, varieties and seed lot numbers by field/tract.
- Keep tobacco types (e.g. burley, dark, flue cured, etc.) strictly separated from each other during seeding, curing, and market preparation.
- Use tarps made of acceptable tarping material (non-plastic) on the side of the tarp in contact with the tobacco when covering it during transport to market, on surfaces free of contaminants.
Or
- Use an enclosed trailer/vehicle to provide protection from weather when transporting the tobacco to market and on surfaces free of contaminants. Stock trailers should not be used for tobacco transport.

⁶See Resource #5 on page 5

⁷See Resource #6 on page 5

⁸See Resource #6 on page 5

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Additional Standards

High Risk

- Use University recommended rates of MH in sucker control or follow contract guidelines for MH use.⁹
- Separate tobacco by stalk position and quality to meet contract requirements

Medium Risk

- Keep records of dates and amounts of irrigation water and maintain records of rainfall amounts during the growing season¹⁰
- Keep records of topping and harvesting dates by field/tract
- Use only varieties that have been approved by your contracting company(s)
- Use recommended measures to control weed seed contamination of tobacco¹¹
- Use appropriate methods to clean or sanitize transplant trays¹²
- Destroy unused seedlings within 30 days after transplanting is completed
- Destroy crop residues and establish a cover crop within 60 days after harvest

Low Risk

- Keep records of plant and row spacing / plant population maintained by field/tract
- FLUE ONLY: Prior to harvest, mow all field borders/turning areas, and manual removal of pigweed and other weeds of concern from fields

CURING AND BARN MANAGEMENT

Critical Standards for All Certifications

- Have a documented safety program for air cured and fire-cured barns that includes inspection of tier rails and support beams for soundness, inspection of general barn soundness, removal of stored machinery, lumber and other items from barn floors that could enhance injury in falls. Ladders or steps should be installed and maintained to reach tiers.¹³
- FLUE ONLY: Have barn tests every 3 years and use only indirect fired barns with heat exchangers

Additional Standards

High Risk

- Have at least one trash can in market prep areas.
- Have a documented program that allows for traceability of tobacco through curing and delivery¹⁴
- Regularly inspect market prep area and remove Non-Tobacco Related Materials (NTRM) , keeping records of inspection dates¹⁵
- AIR AND FIRE ONLY: Record the date that tobacco was placed in the curing structure and the date it was removed

⁹See Resource #7 on page 5

¹⁰See Resource #8 on page 6

¹¹See Resource #9 on page 6

¹²See Resource #10 on page 6

¹³See Resource #11 on page 6

¹⁴See Resource #12 on page 7

¹⁵See Resource #13 on page 8

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Medium Risk

- Do not use brooms with synthetic bristles in market preparation area
- Have designated break areas away from market prep area
- Do not have tools with plastic handles in market prep area
- Maintain records of the type and number of curing structures or barns
- Maintain documentation on the curing structure or barn used for tobacco from each field and tract for traceability purposes
- FLUE ONLY: Use some method or tool to monitor humidity in the barn¹⁶
- FIRE ONLY: Maintain records of firing procedures in fire cured barns to include the number of firings, fuel used (i.e. slabs, sawdust, etc.)

Low Risk

- Have a dedicated market prep and baling area with concrete floor
- AIR AND FIRE ONLY: Records of spacing of sticks and number of stalks per stick in air cured barns/structures
- AIR ONLY: No curing structures more than two tiers high, barns designed such that no worker is more than 12 feet above the barn floor in normal hanging operations
- AIR ONLY: Use a slotted stripping table with wire mesh cover or other stripping systems that permit dirt and other NTRM to freely fall out of the tobacco as it is stripped (stripping chains, stripping wheels, etc.)
- FIRE ONLY: Monitor temperature in fire cured barns during firing

ON-FARM TOBACCO STORAGE

Critical Standards for All Certifications

- Maintain a clean, dry tobacco storage area, with no treated wood in contact with tobacco, no storage of pesticides, petroleum products, paint, stains, fertilizers or Styrofoam trays in storage area. Baled tobacco may be stored on concrete floor, untreated wood floor, trailers, wagons or truck beds.
- Ensure that livestock are excluded from curing and storage structures

Additional Standards

Medium Risk

- Have an enclosed storage area with doors, and windows if possible, that can be closed.

¹⁶See Resource #14 on page 8

Environmental Management Standards

AGROCHEMICAL MANAGEMENT

Critical Standards for All Certifications

- Use label-required PPE by applicators/handlers/early entry workers¹⁷
- Have a securable, dry pesticide storage area with proper signage
- Dispose of agrochemical containers legally
- Properly segregate, store, recycle, or dispose of hazardous waste including but not limited to residual agrochemicals, fuel, oil, grease, paint, and batteries
- All pesticide applications, restricted or not restricted, should be completed or supervised by a licensed pesticide applicator
- Have documentation of proper training for everyone who handles, mixes, and/or applies agrochemicals
- Maintain copies of labels for all pesticides used in tobacco production either on the container, in storage, or in farm files
- Maintain SDS sheets for all pesticides used in tobacco production
- Ensure that agrochemicals are stored in original manufacturer's containers with labels attached or on file in pesticide storage room

Additional Standards

High Risk

- Maintain calibration records for current year¹⁸
- Maintain pesticide application records for the previous two growing seasons as well as the current season

Medium Risk

- Pesticide storage with impermeable floor designed to retain runoff from spills and leakages¹⁹
- Mix or transfer agrochemicals in containment areas away from runoff channels

Low Risk

- Maintain an inventory of pesticide stocks in storage
- Have a designated, fenced or otherwise secured storage area for empty pesticide containers pending disposal
- Properly dispose of non-hazardous waste products (i.e. move waste paper, cardboard, plastic (other than pesticide containers) to a trash receptacle or recycle container.

¹⁷See Resource #15 on page 8

¹⁸See Resource #16 on page 8

¹⁹See Resources #17 on page 9

Environmental Management Standards

SOIL AND WATER MANAGEMENT

Critical Standards for All Certifications

- Comply with irrigation and water extraction laws and regulations
- As required by law, maintain a conservation management plan approved by the soil and water conservation district for fields that are considered highly erodible land

Additional Standards

High Risk

- Use vegetated buffers between field and streams or lakes (minimum buffer distance is 33 feet)

Medium Risk

- Use energy efficient curing systems in flue cured barns²⁰
- Use cover crop or fall seeded crop following tobacco harvest
- Ensure that greenhouse float water is properly and legally disposed of
- Use no-till crops or sod as rotation crops on highly erodible land if applicable
- Apply irrigation based on a documented scheduling method with irrigation amounts measured by moisture meter, tensiometer, rain gauges, or flow meter²¹

Low Risk

- Use no-till crops or sod as rotation crops on all land (carbon sequestration by increasing soil organic matter)
- Maintain field borders/buffer strips along lower edges of fields and beside field ditches and drainage ways (minimum buffer distance is 33 feet)
- If you use irrigation, then use proper irrigation management methods, which include:
 - o Maintain equipment and piping to prevent leakage
 - o Minimize runoff water
- Record the gallons of irrigation water used per pound of cured tobacco produced.²²

²⁰See Resource #18 on page 9

²¹See Resource #19 on page 9

²²See Resource #20 on page 9