

Win With Wood Event

Date/Time: September 30, 2025, 9AM – 2PM ET

Location: UK Wood Utilization Center, 311 Wood Center Drive, Jackson, KY 41339

Contest Organizers: Chad Niman and Laurie Thomas, Department of Forestry and Natural Resources

Welcome to the 2025 Win With Wood Event! We're excited to welcome Kentucky youth, Extension agents, educators, forest products industry representatives, and guests to this year's Win With Wood event!

This hands-on, fun-filled competition is a unique opportunity for youth to explore Kentucky's forest and wood industry and showcase their talents. The competition features a variety of contests related to both primary and secondary wood products, as well as forestry events.

Contest Details:

- All contests are individual events, open to both Junior (ages 9-13) and Senior divisions (ages 14-18).
- Events will take place in and around the Wood Center Complex from 9:00 a.m. to 2:00 p.m., running concurrently.
- There will be eight contest events held. Participants may enter as many or as few events as they like. To be eligible for the 1st, 2nd, or 3rd place overall top scoring individual, a 4-Her must compete in all eight contests. Contest events include: Compass and Pacing, Forestry Equipment Tool Identification, Invasive Species, Tree Identification, Tree Measurement, Wildlife, Wood Identification, and Woodworking
- If time allows, an awards ceremony will follow the competitions.

Awards:

- The top three overall scorers in both junior and senior divisions will receive medallions. To be eligible for the 1st, 2nd, or 3rd place overall top scoring individual, a 4-Her must compete in all eight contests.
- The highest overall scorer in the senior division will be awarded the Albert Spencer Win With Wood Scholarship—a \$500 scholarship to the University of Kentucky Martin-Gatton College of Agriculture, provided by the Kentucky Forest Industries Association.

Industry Participation Encouraged:

We invite representatives from Kentucky's primary and secondary wood products industries to attend, bring product displays, and connect with youth. Consider bringing a member of your HR team—this is a great opportunity to inspire and recruit future talent!

Youth Registration:

Please reach out to your county 4-H agent for registration details, including your county's registration deadline.

We look forward to seeing you at Win With Wood—where Kentucky's youth grow their skills and explore future careers in forestry and wood products!

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Disabilities
accommodated
with prior notification.

Lexington, KY 40506

Win With Wood Event Rules and Guidelines

4-H members may enter any number of events—there's no minimum or maximum. All contests are individual and open to both junior and senior divisions. The following pages outline the general competition rules. Specific rules for each event are included in the individual event descriptions throughout this document.

1. Judging
 - All decisions made by judges are final.
 - Harassment or challenges toward judges will not be tolerated.
2. Arrival & Participation
 - Arrive on time to help events run smoothly.
 - Participants are encouraged to complete as many events as time and skills allow.
3. Written Work
 - All written answers must be printed clearly.
4. Woodworking Projects
 - Individual and team woodworking projects must be delivered by September 26, 2025.
 - Deliver to:
Wood Utilization Center, Robinson Center for Appalachian Resource Sustainability, 130 Robinson Road, Quicksand, KY 41339
5. Awards
 - The top three overall scorers in both junior and senior divisions will receive medallions. To be eligible for the 1st, 2nd, or 3rd place overall top scoring individual, a 4-Her must compete in all eight contests.
 - The top senior overall scorer will receive the Albert Spencer Win With Wood \$500 Scholarship, sponsored by the Kentucky Forest Industries Association, for use at the UK Martin-Gatton College of Agriculture, Food and Environment.
6. Age Divisions
 - Juniors: Ages 9–13 as of January 1, 2026
 - Seniors: Ages 14–18 as of January 1, 2026
7. Event Staffing
 - Each event will have a judge and assistants as needed.
8. Tie-Breaking Procedure

In the event of a tie for the scholarship:

 - Combined scores from Wood ID and Tree ID will be used.
 - If still tied, scores will be compared in this order:
 1. Compass and Pacing
 2. Tree Measurement
 3. Invasive Species
 4. Woodworking & Forestry Equipment Tool ID (combined)
 - If a tie remains, the winner will be determined by a coin flip conducted by the event coordinator.

Compass and Pacing

Seniors 100 points – 45 minutes

Juniors 60 points – 45 minutes

Senior participants will use a compass to measure the azimuth of five lines to the nearest two degrees and then measure the distance from point to point by pacing.

Junior participants will use a compass to measure the azimuth of three lines to the nearest two degrees and measure the distance from point to point by pacing.

Time: 45 minutes will be allotted for this exercise.

Scoring: 20 points per station. Points will be awarded as follows.

10 points for each azimuth with 1 point deduction for each 2 degrees error up to 10 degrees. Over 10 degrees error will result in a score of 0 for that azimuth.

10 points for each distance with a 1-point deduction for each 2-foot error.

Equipment: Compasses will be supplied by Win With Wood event. No measuring devices are to be used for pacing. Only the competitor's feet, required clothing, and a calculator are allowed.

Forestry Equipment Identification

Seniors 100 points – 30 minutes

Juniors 50 points – 30 minutes

Participants will demonstrate their ability to identify tools used in forestry. Twenty items will be on display for senior participants to identify and 10 for the junior participants. Items can be found at https://win-with-wood.ca.uky.edu/equipment_id and in Forestry Suppliers catalog or website.

Scoring: Five points will be given for each item identified correctly. Five points will be awarded for correct function or use of the tool (function or use of the tool will be selected from a provided list).

Equipment and Functions (per pdf on website)

1. Abney level – measures slope of the ground and tree height
2. Altimeter – measures elevation or altitude
3. Backpack fire pump – manually operated water pump for fighting forest fires
4. Bark gauge – determines the thickness of tree bark
5. Biltmore stick / tree scale stick – measures tree diameter, log height, and the volume of timber in a tree
6. Caliper tree – measures the stem diameter of small trees
7. Cant hook – used to roll or turn logs
8. Chainsaw – used to manually fell trees, and delimb and buck logs
9. Chainsaw chaps – reduces impact of running chainsaws, protecting workers
10. Clinometer – measures tree height and slope of the ground
11. Cruising vest – used to carry forestry equipment for field work
12. Diameter tape – measures the outside diameter of the main stem of trees
13. Drip torch – starts controlled prescribed burns in forests and prairies
14. Fiberglass tape measure – measures horizontal distance
15. Fire rake – removes leaf litter and duff to create fire lines
16. Fire swatter – extinguishes slow spreading ground fires
17. Fire weather kit – instruments used to measure weather conditions and determine danger risk levels for forest fires
18. Haga altimeter – measures tree height and ground slope
19. Hand level – determines horizontal level
20. Helmet system – combination hard hat, ear and eye protection required in logging
21. Hip chain – measures distance over any terrain and through forests
22. Increment borer – extracts small cylinders of wood from the bark to the pith of a tree. Used to age and determine growth of trees
23. Level rod – graduated measuring rod used in determining differences in elevation between two points
24. Lumber stick – measures the number of board feet in a piece of lumber
25. Log scale – measures the board foot lumber volume in logs
26. Mirror sighting compass – navigation tool used for determining direction
27. Planimeter – used to determine acreage from a map by tracing the perimeter on a scaled map
28. Plastic flagging – used to mark an area or object (ex. Flag a tree)
29. Pulaski axe – an axe and grubbing hoe tool that can trench and cut roots commonly used in fighting wildfires
30. Safety glasses – personal protective equipment used to protect the eyes from debris and impact
31. Tree caliper – measures tree diameter very accurately
32. Tree injector – tool used to inject a chemical into the stem of a tree
33. Tree marking gun – sprays paint on trees to mark boundaries and sale trees
34. Prism – angled glass tool used in forest inventory operations
35. Relaskop – used to take individual tree diameters and heights during forest inventories
36. Staff compass – traditional compass used to survey forests and fields
37. Timber cruising computer – handheld computer used to record forest inventory data
38. GPS Unit – Global Positioning System – handheld, satellite-based device used to determine location data
39. Tree planting bar – tool used to create a narrow opening in the ground for planting bare-root tree seedlings
40. GIS (Geographic Information System) – a digital system used to manage, analyze, and display geographic information

Invasive Forest Plant Identification

Seniors 100 points – 30 minutes

Juniors 50 points – 30 minutes

Participants will demonstrate their ability to identify invasive forest plant species. Five plants will be marked for juniors to identify. Seniors will have to identify 10 plants. A set of flash cards are available on the web at <http://win-with-wood.ca.uky.edu/>. The flash cards are to be used to learn the names and spelling of different invasive forest plant species prevalent in Kentucky. A list of potential Species will be listed on the back of score sheet.

Time: 30 minutes

Junior Scoring:

Plant Identification: 9 points

Correct Spelling: 1 point

Total: 5 plants X 10 points = 50 points

Senior Scoring:

Plant Identification: 9 points

Correct Spelling: 1 point

Total: 10 plants X 10 points = 100 points

Invasive Species List

Correct plant identification will be determined by the judges. In cases of misspelling, the judges will make the final decision. Spelling must match exactly as listed—including capitalization—and will be based on the official reference list provided.

- musk thistle
- Japanese knotweed
- English ivy
- burning bush
- Chinese yam
- crown vetch
- poison hemlock
- Oriental bittersweet
- yellow and white sweet clover
- Chinese and European privet
- Japanese honeysuckle
- mimosa
- garlic mustard
- princess tree
- Johnson grass
- purple loosestrife
- bush honeysuckle
- winter creeper
- Japanese stilt grass
- kudzu
- autumn olive
- sericea lespedeza
- common reed
- Chinese silver grass
- multiflora rose
- tree of heaven

Tree Identification

Juniors – 50 Points

Seniors - 100 Points

30 Minutes

Participants will demonstrate their ability to identify trees in eastern Kentucky. Five trees will be marked for juniors to identify. Seniors will have to identify ten trees. A key will be provided for the youth to use to identify the specimens. In addition to identifying the trees, youth will have to answer two of the following questions about each tree.

- Is this tree a broadleaf or a conifer?
- Is the leaf margin entire, serrated, or lobed?
- Does the tree have alternate or opposite leaf arrangement?
- Does the tree have simple or compound leaves?
- Do the leaves or needles have flat scales?
- Are the leaves or needles in bundles or individually borne?
- Do the leaves or needles have two white lines on the bottom?

Time: 25-30 minutes

Junior Scoring:

- Tree Identification 5 points
- Question #1 2 points
- Question #2 2 points
- Correct Spelling 1 points
- Total 10 points x 5 trees = 50 points

Senior Scoring:

- Tree Identification 5 points
- Question #1 2 points
- Question #2 2 points
- Correct Spelling 1 points
- Total 10 points x 10 trees = 100 points

Spelling will be based on the following list of tree species.

boxelder	ash	white oak
silver maple	holly	red oak
red maple	black walnut	honey locust
sugar maple	sweet gum	black locust
buckeye	yellow-poplar	sassafras
pawpaw	cucumber tree	elm
bitternut hickory	basswood	ginkgo
shagbark hickory	pitch pine	eastern red cedar
mockernut hickory	white pine	eastern hemlock
redbud	Virginia pine	Kentucky coffeetree
flowering dogwood	sycamore	hawthorn
beech	cherry	blackgum
cotton wood	black oak	persimmon
tulip poplar		

Tree Measurement

Junior Division – 50 points possible

Senior Division - 100 points

Time - 45 minutes

Participants will demonstrate skills in determining standing tree measurements in order to estimate board foot volumes of designated trees. Due to the limited merchantable volume of the trees we have on the Quicksand research station we will provide the heights of the trees in merchantable logs to help the student derive the tree volume. The Doyle Rule will be used to estimate tree volume.

Time: Each participant will have 45 minutes to complete the exercise.

Scoring: Youth will measure the diameter at breast height (DBH) of designated trees using a provided tree scale stick. Score sheets with merchantable heights (to ten-inch top diameter) will be provided for each tree and the youth will use these numbers to derive tree board foot (bdft) volumes using the provide Doyle Log Scale Volume Table. Juniors will measure three trees and Seniors will measure five trees.

- 6 points for each correct DBH measurement, 2 points for each DBH measurement +/- one inch deviation from correct answer.
- 4 points for correct tree volume, 2 points for each board foot (bdft) measurement +/- 5 bdft deviation from correct answer.

The total points will be calculated with a maximum score of 30 points for junior contestants and 50 points for senior contestants.

Equipment: Youth will need a clipboard and pencil; a calculator is optional. Biltmore / tree scale sticks and volume tables will be supplied at the contest.

Volume of Trees, Doyle Log Scale Form Class 78								
	Number of 16' logs							
	1/2	1	1- 1/2	2	2 - 1/2	3	3 - 1/2	4
DBH (inches)	Volume in board feet							
10	8	14	17	20	21	22	-	-
11	13	22	27	32	35	38	-	-
12	18	29	36	43	48	53	54	56
13	24	38	48	59	66	73	76	80
14	32	48	62	75	84	93	98	103
15	36	60	78	96	108	121	128	136
16	40	72	94	116	132	149	160	170
17	48	86	113	140	161	182	196	209
18	60	100	132	164	190	215	232	248
19	72	118	156	195	225	256	276	297
20	84	135	180	225	261	297	322	346
21	98	154	207	260	302	344	374	404
22	112	174	234	295	344	392	427	462
23	120	195	264	332	388	444	483	522
24	128	216	293	370	433	496	539	582
25	145	241	328	414	486	558	609	660
26	162	266	362	459	539	619	678	737
27	181	292	398	505	594	684	749	814
28	200	317	434	551	651	750	820	890
29	221	346	475	604	714	824	902	980
30	242	376	517	658	778	898	984	1069
31	265	408	562	717	850	983	1080	1176
32	288	441	608	776	922	1068	1176	1283
33	300	474	654	835	994	1152	1268	1385
34	312	506	700	894	1064	1235	1361	1487
35	338	544	754	964	1149	1334	1472	1610
36	364	581	808	1035	1234	1434	1583	1732
37	392	618	860	1102	1318	1534	1694	1854
38	420	655	912	1170	1402	1635	1805	1975
39	435	698	974	1250	1498	1746	1932	2118
40	450	740	1035	1330	1594	1858	2059	2260

Wildlife Identification

Senior 100 points – 30 minutes

Junior 50 points – 30 minutes

Participants will demonstrate their ability to identify various species of wildlife in Kentucky. Seniors will have 10 specimens to identify, and Juniors will have 5 specimens. Specimens may be whole animals, animal parts (skins, skulls, claws, tails, feet, teeth, feathers, scales, etc.), evidence of feeding activity, eggs, scat, or tracks.

Scoring: Six points will be given for each item identified correctly. Each item must be correctly identified by common name and whether it is a mammal, fish, bird, or reptile. Points will be awarded as follows. Answers must be PRINTED. List of possible species will be printed on back of score sheet.

<u>Seniors</u>	<u>Juniors</u>	
6 points	6 points	for correct identification
2 points	2 points	for identifying mammal, fish, bird, or reptile
2 points	2 points	for correct spelling

Correct identification of the items and spelling will be determined by the judges. The judge's decision is final. Spelling will be based on the following list. Ten samples will be pulled from this list for the Seniors and five samples will be pulled for the Juniors.

Samples (photos and information about species can be found at https://win-with-wood.ca.uky.edu/wildlife_id)

Mammal: red fox, gray fox, beaver, black bear, coyote, wolf, bobcat, fox squirrel, gray squirrel, cougar, raccoon, flying squirrel, opossum, chipmunk, striped skunk, spotted skunk, cottontail rabbit, whitetail deer, long tail weasel, groundhog, least weasel, mink, river otter, muskrat, and elk.

Fish: bluegill, green sunfish, rock bass, redear sunfish, longear sunfish, warmouth, rainbow trout, brown trout, largemouth bass, smallmouth bass, Kentucky bass, white bass, striped bass, yellow bass, hybrid striped bass, white crappie, black crappie, muskellunge, sucker, drum, carp, blue catfish, channel catfish, flathead catfish, bullhead catfish, walleye, and sauger.

Bird: turkey, grouse, quail, dove, duck, goose, crow, woodcock, whippoorwill, cardinal, wood thrush, bluebird, screech owl, great horned owl, barred owl, barn owl, red-tail hawk, red-shouldered hawk, Cooper's hawk, bald eagle, kestrel, osprey, peregrine falcon, blue jay, kingfisher, blue heron, sandhill crane, and robin.

Reptile: box turtle, snapping turtle, softshell turtle, black rat snake, black racer, eastern garter snake, smooth earth snake, brown snake, diamondback water snake, northern water snake, copperbelly water snake, ringneck snake, timber rattlesnake, copperhead, cottonmouth, pigmy rattlesnake, green snake, milk snake, black kingsnake, hognose snake, corn snake, skink, and fence lizard

Woodworking Tool Identification

Senior 50 points – 30 minutes

Juniors 25 points – 30 minutes

Participants will demonstrate their ability to identify tools used in woodworking, as well as their function. Ten items will be on display for senior participants to identify. Of these 10 tools five will be marked for junior participants.

Scoring: Five points will be given for each item identified correctly. Points will be awarded as follows.

2 points for correct identification

2 points for correct function

1 point for correct spelling

Correct identification of the items, function and spelling will be determined by the judges. The judge's decision is final. Spelling will be based on the following list. Answers must be PRINTED.

Equipment and function list (photos and tool uses can be found in the Woodworking Tool pdf at https://win-with-wood.ca.uky.edu/woodworking_id)

1. Chisel: a manual hand tool used for cutting joinery
2. Awl: sets a small hole used for starting a drill bit
3. Drill handle: a manual tool used for drilling holes for screws and nails
4. Brace and Bit: a manual tool used for drilling large holes for big screws and bolts
5. Compass/Dividers: a manual tool used for layout work, such as, marking holes for location and size
6. Hammer: a manual tool used for driving nails and removing nails
7. Pliers: a multipurpose tool used for turning, twisting, and loosening
8. Plane: a manual tool used to smooth the surface of a piece of wood
9. File: a manual tool used for shaping wood and sharpening the edges of some tools
10. Screw driver: a manual tool used for turning or tightening screws and removing screws
11. Square: a manual tool used for marking and inspecting perpendicular cuts
12. Reciprocating saw: an electric handheld tool used for cutting awkwardly positioned objects
13. Hand saw: a manual tool used for cutting objects into pieces
14. Tape measure: a tool used for measuring objects and marking position of cuts
15. Electric sander: a handheld electric tool used for smoothing and flattening surfaces for finishing
16. Electric hand drill: a handheld tool used for drilling holes for inserting screws and bolts
17. Saber saw: an electric handheld tool used for cutting irregular shapes
18. Jig saw: a machine used for cutting very detailed irregular shapes
19. Belt sander: an electric handheld tool used for smoothing and flattening surfaces (edges)
20. Electric hand planer: a handheld tool used for smoothing or removing wood from the edge of a door

21. Router: a handheld electric tool used for profiling the edge of a piece of wood
22. Circular saw: a handheld electric tool used for cutting wood into two pieces
23. Band saw: a machine used for cutting circles and irregular shapes
24. Drill press: a machine used for drilling precise holes
25. Jointer: a powerful machine used to smooth and flatten a surface on a piece of wood
26. Wood lathe: a machine used to shape a cylindrical piece of wood
27. Radial arm saw: a machine used to precisely cut wood
28. Disc and belt sander: a machine used to smooth the ends and surfaces of wood
29. Table saw: a machine used to precisely cut wood
30. Bench grinder: a machine used to sharpen metal woodworking tools

Wood Identification

Senior 100 points – 30 minutes

Junior 50 points – 15 minutes

Participants will demonstrate their ability to identify various Eastern hardwoods and softwoods used in the forest products industry in Kentucky. Seniors will have 10 specimens to identify and juniors will have 5 specimens.

Scoring: Six points will be given for each item identified correctly. Each item must be correctly identified by common name and whether it is a hardwood or softwood species. Knife cutting will not be allowed. Cuts in the wood samples to be identified will be made prior to the event. Points will be awarded as follows. Answers must be PRINTED.

<u>Seniors</u>	<u>Juniors</u>	
7 points	7 points	for correct identification
2 points	2 points	for identifying hardwood or softwood
1 points	1 points	for correct spelling

Correct identification of the items and spelling will be determined by the judges. The judge's decision is final. Spelling will be based on the following list. Ten samples will be pulled from this list of twenty species for the seniors and five of the samples in red will be pulled for the juniors.

Samples:

1. ash	hardwood
2. black walnut	hardwood
3. black cherry	hardwood
4. American chestnut	hardwood
5. soft maple	hardwood
6. hard maple	hardwood
7. birch	hardwood
8. white oak	hardwood
9. yellow-poplar	hardwood
10. red oak	hardwood
11. gum	hardwood
12. sycamore	hardwood
13. hickory	hardwood
14. American basswood	hardwood
15. American beech	hardwood
16. bald cypress	softwood
17. eastern red cedar	softwood
18. hemlock	softwood
19. white pine	softwood
20. southern yellow pine	softwood

Individual Woodworking Project

Participants will demonstrate their ability design and produce an item made of wood. This item is to be completed and must arrive for judging by September 26, 2025.

Students entering this competition are allowed to participate in other events as well. Items will be returned. We cannot be responsible for any damage to or losses of any item.

Scoring: The item produced must meet the following minimum criteria in order to qualify for competition:

1. Produced with 4 pieces of stock (any species or composite)
2. Use of least one type of wood joint
3. Use of three (3) different tools Each item will be judged as follows:
 - 20 points for form and function
 - 20 points for complexity of design
 - 20 points for stain and/or finish quality
 - 20 points for overall quality of workmanship and appearance
 - 20 points for correct presentation of the information form (see attached)

Individual Woodworking Project

Fill out this form completely and correctly and return with your project.
Please PRINT. This is worth 20 points in the judging of your project.

Name: _____

Club/School: _____

Agent/Teacher/Leader: _____

Type of wood or composite used: _____

Names and placement of joints used: _____

Color and type of stains and/or finishes: _____

Names of the 3 tools used:

1.

2.

3.

I, _____, pledge that the project submitted for
judging is my individual work.

Team Woodworking Project

Participants will demonstrate their ability to design and mass produce an item made of wood. This item is to be completed and sent for judging by September 26, 2025. This will be produced as a group from each club or school. Students entering this competition are allowed to participate in other events as well. Winners will be presented a plaque in honor of their school or club. Items will be returned. We cannot be responsible for any damage to or losses of any item.

Scoring: The item produced must meet the following minimum criteria in order to qualify for competition:

1. Produced with pieces of stock (any species or composite)
2. Use of one type of wood joint.
3. Each item will be judged as follows:
 - 20 points for form and function
 - 20 points for complexity of design
 - 20 points for stain and/or finish quality
 - 20 points for overall quality of workmanship and appearance
 - 20 points for correct presentation of the information form (see attached)

Team Woodworking Project

Fill out this form completely and correctly and return with completed project. Please PRINT. This is worth 20 points in the judging of your project.

Name of Club/Class: _____

County/School: _____

Agent/Teacher: _____

Type of wood or composite used: _____

Names and placement of joints used: _____

Color and type of stains and/or finishes: _____

Names of tools used