

Crop & Weed ID



UofA DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

**District & State 4-H O-Rama
Junior & Senior 4-H'ers**

OBJECTIVES

Targeted Life Skills: Self-esteem, Problem Solving, Wise Use of Resources, Self-motivation, Critical Thinking and Leadership

Opportunities will be provided for faculty to share information about related college degree programs in Crop Management and Environmental, Soil and Water Science and the following career options:

Plant Breeding, Research, Teaching, Public Education at Universities, Farm Management, Country Extension Service, Plant Protection Sales Representative, Crop Consultant/Soil Conservationist, Farming.

ELIGIBILITY

District 4-H O-Rama: Each county may enter two junior and two senior 4-H members at the District 4-H O-Rama.

Arkansas 4-H O-Rama: First through seventh (7th) place senior winners from each District O-Rama are eligible to compete at the State 4-H O-Rama.

ACTIVITY

The activity will include the following:

- 1. Exam (For Seniors Only)** – A twenty-five question exam will be given. The questions will be taken from the Arkansas Row Crops Quick Facts (Corn, Grain Sorghum, Cotton, Rice, Soybean and Wheat) for the current year. This part of the activity has a value of 100 points. The 2025 exam will focus on **Soybean** and **Grain Sorghum**. Exam questions will come from the **Soybean** and **Grain Sorghum** Quick Facts sheets. Arkansas Row Crops Quick Facts for all major Arkansas crops can be downloaded from Extension's "Row Crops and Commercial Horticulture" page <https://www.uaex.uada.edu/farm-ranch/crops-commercial-horticulture/default.aspx>. Select the appropriate crop on this page then select the Quick Facts link for that crop. You may also request Quick Facts sheets at your local County Extension Office.
Please note: In the past juniors were also required to take this exam. Although this is no longer the case, study of the Quick Facts sheets for the focus crops each year will remain important in the event of a tied score (see point 4).
- 2. Field Crop Fertilizer Recommendation (For Seniors Only)** - Each participant should be prepared to write a fertilizer recommendation for the nutrients nitrogen (N), phosphorus (P) and potassium (K) expressed in pounds per acre when given a soil test report from a given row crop field. Charts will be provided with the recommended rate based on soil test value just as they are in the Arkansas Row Crop Quick Facts. The 2025 fertilizer recommendation will be for **Rice** or **Corn**.

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This part of the activity has a value of 45 points.

Resources for this activity include:

FSA-2153, The Soil Test Report:

<https://www.uaex.uada.edu/publications/pdf/FSA-2153.pdf>

FSA-2118, Understanding the Numbers on Your Soil Test Report:

<https://www.uaex.uada.edu/publications/pdf/FSA-2118.pdf>

Field Crops and Noxious Weeds Identification (For Juniors and Seniors) - Each participant should be prepared to identify five common Arkansas field crops and fifteen weeds selected from the lists below. Plants can easily be identified by learning the size, shape, texture, and arrangement of leaves as well as flower and stem characteristics. To identify seeds, look for differences in size, shape, texture, and color. The field crops will be identified from pictures or planting seeds. The weeds from pictures of the vegetative, above ground portion of the plant. This part of the activity has a value of 100 points.

Weeds

1. Balloonvine
2. Barnyardgrass
3. Broadleaf Signalgrass
4. Buttercup
5. Cheat
6. Cocklebur
7. Common Ragweed
8. Crabgrass
9. Curly Dock
10. Ducksalad
11. Foxtail
12. Giant Ragweed
13. Gooseweed
14. Groundcherry
15. Hemp Sesbania (coffeebean)
16. Henbit
17. Horsenettle
18. Johnsongrass
19. Morningglory
20. Northern Jointvetch (curly Indigo)
21. Pigweed
22. Purple Moonflower
23. Red Rice
24. Ryegrass
25. Smartweed
26. Vetch
27. Wild Garlic
28. Woolly Croton
29. Yellow Nutsedge

Crops

1. Corn
2. Cotton
3. Grain Sorghum
4. Rice
5. Soybean
6. Wheat

3. Tie Breaker (For Juniors and Seniors) - In the event of a tie score, up to five open ended questions taken from the current focus crops Quick Facts sheets will be asked.

AWARDS

District 4-H O-Rama: One trophy to the senior winner and one trophy to the junior winner. Ribbons will be awarded to 2nd, 3rd, 4th, and 5th place winners in the junior and senior activity.

Arkansas 4-H O-Rama: One trophy for the senior winner. Ribbons will be awarded to the 2nd, 3rd, 4th, and 5th place winners.

JUDGING

This activity will be judged in accordance with the procedures outlined in the attached guidelines.

PREPARED BY

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Tom Barber, Extension Weed Scientist
Chuck Capps, Area Agronomist - Corn & Grain Sorghum
Chris Elkins, Area Agronomist - Soybean & Wheat
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Amanda Free, Area Agronomist - Cotton
Jarrod Hardke, Extension Agronomist - Rice
Jason Kelley, Extension Agronomist - Wheat & Feed Grains
Ralph Mazantti, Area Agronomist - Rice
Chad Norton, Area Agronomist - Soybean & Wheat
Bill Robertson, Extension Agronomist - Cotton
Jeremy Ross, Extension Agronomist - Soybean

CONTACT PERSON

Chuck Capps, Area Agronomist - Corn







Note: Work done in connection with the district and state 4-H crops activities should be reported in 4-H record books under agriculture, field crops, achievement, conservation of natural resources, or under other related areas.

Download a PowerPoint “Arkansas Field Crops and Weeds” [CLICK HERE](#)

Printable study materials with pictures begin below.







4-H SEED IDENTIFICATION

Description of Seed








CROP	Picture	DESCRIPTION
Corn		Large seed roughly as large as or larger than your little fingernail and 3/16 inches thick. Yellow or white grain, white to creamy starch inside, dent in crown when dry.
Cotton		3/8 inches long, 3/16 inches thick, wedge-shaped, seed coat hard and black in color, entirely covered with lint unless acid delinted.
Grain Sorghum		Seed roundish, glumes covering the caryopsis vary in color from straw-red to black, depending on the variety. Hulled seed are reddish, yellow or white, depending on variety. Germ (small "dimple" that is lighter in color than the rest of the seed) on one end, similar to wheat.
Rice		Long, slender, smooth, straw-colored hull. May have short awn on tip of some grain. White color when hull is removed.
Soybeans		Round seed, yellow, black Hilum.
Wheat		Free of lemma and palea, most varieties are rather full and plump; light reddish-brown in color

4-H WEED IDENTIFICATION







Description of Weed

Balloonvine		<p>Balloonvine is named for its fruits, which occur as inflated capsules with pointed tips. This vine can grow up to 8 m high in the canopy. The leaves are made up of nine leaflets, which have toothed margins and are dark green in color.</p>
Barnyardgrass		<p>A summer annual with thick stems that may reach 5 feet in height. One of the few grass weeds in which ligules are absent. Found throughout the United States, Canada, and Mexico as a weed of many agronomic crops, nurseries, landscape, and turf.</p>
Broadleaf Signalgrass		<p>A spreading summer annual commonly found growing along the ground but with tips ascending. Leaves are mostly hairless but sheaths can be hairy and the ligule is a “mustache” of short hairs. Stems will root at lower nodes. Grows up to 3 ft. tall. Common weed of agronomic crops in Arkansas and other southern states.</p>
Buttercup		<p>A low-growing perennial with divided leaves and distinctive yellow flowers. The buttercups are common weeds of turfgrass, lawns, pastures, hay fields, and occasionally landscapes.</p>
Cheat		<p>A winter annual grass that can reach as much as 3.5 feet in height. Cheat is found in cultivated areas, agronomic crop fields (most notably wheat), pastures, roadsides, and waste areas.</p>
Cocklebur		<p>The stem below the cotyledons (hypocotyl) is purple at the base and often green in the upper portion. Cotyledons are linear to oblong in outline, waxy, smooth, fleshy, thick, approximately 3/4 to 1 3/4 inches long and usually no more than 1/2 inch wide. The first true leaves are opposite, while all subsequent leaves are alternate.</p>







4-H WEED IDENTIFICATION

Common Ragweed		<p>Stems below cotyledons (hypocotyls) are green, usually spotted with purple. Cotyledons are roundish to oblong, purple underneath. Young leaves opposite, becoming alternate with age, dense pubescence over entire leaf surface.</p>
Crabgrass		<p>Summer annual, having a prostrate or ascending growth habit. Ligule is a thin, fingernail-like membrane without hairs. Leaves and sheaths can be covered with hairs but can also be glabrous, depending on the type observed. Stems do not root at the nodes. Found throughout the United States.</p>
Curly Dock		<p>Taprooted perennial, developing a basal rosette of wavy-margined leaves and an unbranched stem that may reach 5 feet in height. Found throughout the United States primarily as a weed of pastures, hay fields, forages, landscapes, and some agronomic crops.</p>
Ducksalad		<p>The mature plant is erect and grows to over 1-1/2 feet (about 0.5 m) with bright, waxy green, oval-shaped leaf blades that may be submerged, floating, or held above the water's surface. Sometimes plants develop a creeping horizontal stem.</p>
Foxtail		<p>A clump-forming summer annual with a seedhead that resembles a fox's tail. A weed of many agronomic crops, turf, landscapes, and nurseries. Found throughout the United States, especially on fertile soil.</p>
Giant Ragweed		<p>Erect summer annual that may reach 16 feet in height. Leaves are large and distinctively 3-lobed, or less often 5-lobed. Primarily a weed of agronomic crops that thrives in fertile soils. Found throughout the U.S. except the Pacific Coast, areas of the Southwest, and portions of Florida and Maine.</p>
Goosegrass		<p>Flattened stems with a distinctive white or silver center. Plants often appear compressed to the soil, as if they have been repeatedly stepped on. A distinctive white center of goosegrass distinguishes it from most other grass weeds.</p>





4-H WEED IDENTIFICATION

Groundcherry		They are herbaceous plants growing to 0.4–3 m tall, similar to the common tomato - a relative - but usually with a stiffer, more upright stem; they can be either annual or perennial.
Hemp Sesbania (Coffeebean)		Erect annual, reaching 3-8 feet in height, with distinctive seed pods and showy yellow flowers. Primarily a weed of agronomic crops. Similar in appearance to Northern Jointvetch but has much more narrow (“snake’s tongue”) stipules or bracts at the base of the leaf petioles.
Henbit		Winter annual with square stems and pink-purple flowers, reaching 16 inches in height. Primarily a weed of turfgrass, landscapes and small grains. Found throughout the United States but most common in the eastern states.
Horsenettle		A perennial from rhizomes with conspicuous spines on the leaves and stems that may reach 3 ft in height. Horsenettle is found throughout the southeastern, eastern, and north-central United States. All parts of the plant, except the mature fruit, are poisonous to livestock even when this weed is consumed in dry hay. However, consumption of this weed rarely occurs due to the prickly stems and leaves.
Johnsongrass		A perennial from rhizomes that may reach 6 1/2 feet in height. Johnsongrass is capable of rapidly colonizing a variety of different environments due to the large amounts of seed and rhizomes produced by this plant. Originally introduced as a forage crop, this weed is now one of the most common and troublesome weeds of most agronomic and horticultural crops, as well as roadsides, pastures, and hay fields.
Morning Glory		A trailing or climbing annual vine with heart shaped leaves that taper to a point with attractive funnel-shaped white flowers. Primarily a weed of agronomic crops, landscapes, nurseries and sometimes in noncrop areas.

4-H WEED IDENTIFICATION

<p>Northern Jointvetch (Curly Indigo)</p>		<p>Northern jointvetch plants have wide (“mouse ear”) stipules or bracts at the base of the leaf stalk or petiole. Their pea-like flowers are smaller than Hemp sesbania and produce shorter, wider pods that are segmented. Though similar in appearance to Hemp sesbania prior to flowering and pod set, it can be much more difficult to control, especially after it exceeds early growth stages.</p>
<p>Pigweed</p>		<p>Dense, compact terminal panicles and relatively tall plants with alternately arranged leaves with petioles that are longer than the leaves.</p>
<p>Purple Moonflower</p>		<p>Several characteristics make purple moonflower relatively easy to identify. Large, shiny, butterfly-shaped cotyledon leaves and fleshy stem prickles are characteristics unique to purple moonflower. Purple moonflower plants also produce large, lavender colored flowers.</p>
<p>Red Rice</p>		<p>Red rice plants vary considerably. The tall-growing, black-hulled, awned plant is easiest to recognize and is considered by many to be a typical red rice plant. However, other strains have developed that have straw-colored hulls, are awnless and are about the same height as desirable rice varieties.</p>
<p>Ryegrass</p>		<p>A winter annual that may reach 3 ft in height with conspicuous auricles and a distinctive seedhead. Found throughout the United States, primarily as a weed of small grains.</p>
<p>Smartweed</p>		<p>The elliptic to lanceolate leaves with a purple spotted lady's thumb print in the middle and distinctive ocrea are all characteristics that help to distinguish Pennsylvania smartweed from other similar weeds.</p>

4-H WEED IDENTIFICATION

Vetch		<p>A trailing or climbing summer annual vine with leaves that are divided into many leaflets. The vetches are common weeds of roadsides, pastures, landscapes, ornamentals, and some of the winter annuals are weeds of winter small grains.</p>
Wild Garlic		<p>A perennial from bulblets that emits a strong garlic or onion smell when crushed. Primarily a weed of small grains, turfgrass and pastures.</p>
Wolly Croton		<p>A warm season annual plant with rounded open-branched spreading growth habit. 1-3' tall and wide. Common in overgrazed pastures; can have some toxicity for livestock.</p>
Yellow Nutsedge		<p>A perennial from rhizomes and tubers that may reach 2 1/2 feet in height. The stems are 3-sided and triangular in cross section and the leaves are yellow to green in color with a distinct ridge. Found throughout North America as a common weed in agronomic and horticultural crops, nurseries, turfgrass, and landscapes.</p>

How to Fill out the Seed Identification Form

Each participant will receive a blank sheet similar to the one shown in miniature below. It will contain no writing in the blanks when you receive it.

Sample No.	Crop or Weed	Score
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After you look at the seed or picture, you will write its name in the blank to the right of the proper sample number.

Deductions are: Two points for seriously misspelled words. Each correct line has a total value of 5 points.