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EC72-193 Junior Crops Contest Guide

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JUNIOR CROPS CONTEST GUIDE



4-H-NEBRASKA STATE FAIR

FFA-NEBRASKA JUNIOR GRAIN SHOWS



Extension Service, University of Nebraska-Lincoln College of Agriculture Cooperating with the
U. S. Department of Agriculture and the College of Home Economics
E. F. Frolik, Dean J. L. Adams, Director

EC 72-193

NEBRASKA JUNIOR 4-H CROPS CONTEST

Nebraska State Fair

Duane Foote
Extension Agronomist (Grain)

Rules

1. A team consists of 3 or 4 individuals with the scores of the three high individuals totaled for the team score. Membership of the team or teams must be designated before the contest.

2. A contestant may not compete for individual honors after winning the Gold Medal (High individual of any previous Nebraska Junior 4-H Crops Contest).

NEBRASKA JUNIOR FFA CROPS CONTEST

Held in conjunction with the Nebraska
Junior Grain Shows

Rules

1. The competition is open to individuals or teams.

2. Each team will consist of three members, with team members designated before the contest.

3. Each school will be limited to three FFA teams or a total of 10 individuals (three teams and one individual).

4. The first place individual of a previous state contest will *not* be eligible to compete as an individual.

Crops Contest Guide

The Junior Crops Contest will include:

1. Crop and Weed Seed Identification 200 points
2. Seed Analysis 200 points
3. Grain Grading 200 points

Crop and Weed Seed Identification will be divided into classes—crop seed identification and weed seed identification. Each class will consist of 25 seed samples. In addition to identifying the sample the contestant must designate the general crop classification for crop seeds. When identifying weed seeds, the classification *Prohibited* (P), *Restricted* (R) or *Common* (C) must also be indicated.

Seed to be identified will be taken from the crop list and the weed list (Forms 1 and 2). Forms

3 and 4 are to be used in crop and weed identification.

Seed Analysis will consist of two classes of four samples. The two classes will be chosen from threshed samples of grain sorghum, oats, soybeans or wheat. Contestants must indicate on the seed analysis form (Form 5) those factors which describe the sample. Samples in seed analysis will be evaluated on their value for use as seed. Contestants will be graded on both the placing and the written reasons which justify the placing of the samples. Terms used in describing the samples are shown in Form 6, "Terminology Used in Seed Analysis."

The Grain Grading portion of the contest will involve the market grade and class determination of four samples of two of the following grains: corn, grain sorghum, soybeans or hard red winter wheat. Grain samples may or may not be used. Grading problems such as in Forms 7 and 8 will be used.

The market grade and class and the grading factors must be indicated on the Grain Grading Forms. However, only those factors which determine the specific grade of each sample should be listed.

For example, if a grain sample grades No. 4 on test weight and other factors cause it to grade No. 2 or 3, only test weight should be mentioned as the grading factor. More than one factor may grade the sample, however. Special grades must be included in the final grade when they apply. Grade requirement charts will be provided for use by the contestants during the contest.

The circular "Grain Grading" will give additional information on how grain is graded.

Relative Importance of Factors Used In Seed Analysis

To determine the correct placing you must study the various factors which influence the final placing. These factors depend somewhat on the crop being judged. Here are some of the more important factors and relative importance of each in judging grain sorghum, oats, soybeans and wheat. The point values are to be used only as a guide in determining the seriousness of the various factors.

Factors in Judging Grain Sorghum

	Relative Points
1. Freedom from mixtures	25
Non grain sorghums	15
Other grain sorghums	10
Other crops	5
2. Freedom from inert material (hulls, stems, dirt, etc.)	5
3. Freedom from weed seeds	35
Prohibited (Field bindweed, Johnsongrass, etc.)	25
Restricted (Field pennycress, Curly dock, etc.)	25
Common (Redroot pigweed, Lambsquarter, etc.)	5
4. Condition	25
Discolored and weathered	10
Immaturity (shrunken or shriveled kernels)	10
Disease (smut, mold, etc.)	10
Mechanical (cracked)	5
Insect damage	5
Sprouted kernels	5
Heat damage	5
5. Uniformity	10

Factors In Judging Spring Oats

	Relative Points
1. Freedom from mixtures	25
Spring barley	15
Spring wheat	10
Other crops	5
2. Freedom from inert material (stems, dirt, chaff, etc.)	5
3. Freedom from weed seed	35
Prohibited (Field bindweed, Canada thistle, etc.)	25
Restricted (Red sorrel, Horsenettle, etc.)	5
Common (Green foxtail, Kochia, etc.)	5
4. Condition	25
Discolored or weathered	10
Immaturity (green seed)	10
Disease (mold, etc.)	5
Light weight (unfilled)	10
Mechanical (skinned kernels)	5
Insect damage	5

Factors In Judging Soybeans

	Relative Points
1. Freedom from mixtures	25
Varietal mixture	10

Other crops	5
2. Freedom from inert material (stems, pods, dirt, etc.)	5
3. Freedom from weed seeds	35
Prohibited (Leafy spurge, Russian knapweed, etc.)	25
Restricted (Wild mustard, Curly dock, etc.)	15
Common (Velvetleaf, Sunflower, etc.)	5
4. Condition	25
Immaturity (shrunken seed)	10
Disease (mold, purple mottled, etc.)	10
Discolored (weathering or aged)	10
Mechanical damage (splits, cracked)	5
Insect damage	5
5. Uniformity	10

Factors In Judging Hard Red Winter Wheat

	Relative Points
1. Freedom from mixtures	25
Rye	18
Other classes of wheat	15
Other crops	5
2. Freedom from inert material (stems, dirt, chaff, etc.)	5
3. Freedom from weed seeds	35
Prohibited (Hoary cress, Musk thistle, etc.)	25
Restricted (Curly dock, Field pennycress, etc.)	15
Common (Russian thistle, Downy brome, etc.)	5
4. Condition	25
Bleached	5
Immature (green)	5
Disease (scab, blacktip, etc.)	5
Heat or sprout damaged	5
Mechanical (broken)	5
Insect damage	5
5. Yellowberry	5
Shrunken (shriveled)	5

Scoring of Forms—Points for Each

Contestants will be graded on the following basis in the various categories of the contest:

Crop and Weed Seed Identification. Each crop and weed seed correctly identified will be worth four points; three points for correct identification and one point for proper classification. One point will be deducted for incorrect spelling of names.

Seed Analysis. Both the placing and written reasons will be graded on the basis of 50 points

each. Points will be deducted for incorrect placings and reasons.

Grain Gradings. Each grain grading problem will be worth 25 points.

Materials and References for Crops Contest

1. Crop seeds for crop seed identification.
2. Weed seeds for weed seed identification.
3. Samples for seed analysis.
4. **Seeds**, the Yearbook of Agriculture. 1961

U.S.D.A.

5. **Nebraska Weeds.** State Department of Agriculture.

6. **Judging Crop Quality**, the Interstate.

7. EC 68-126 Corn Kernel Damage.

8. EC 68-127 Grain Sorghum Kernel Damage.

9. EC 68-128 Soybean Kernel Damage.

10. EC 67-122 Wheat Grading Factors.

11. Grade Requirement Charts-Corn, Grain Sorghum, Soybeans and Wheat.

Form 1. Crop seed identification.

Corn

1. Sweet corn
2. Popcorn
3. Dent corn

Small Grain

1. Wheat
2. Oats
3. Barley
4. Rye

Sorghums

1. Sudangrass
2. Grain or forage sorghum

Miscellaneous Crops

1. Sugar beet
2. Millet

Grasses

Cool-season

1. Bromegrass
2. Kentucky bluegrass
3. Crested wheatgrass
4. Western wheatgrass
5. Intermediate wheatgrass

Warm-season

1. Big bluestem
2. Little bluestem
3. Switchgrass
4. Side-oats grama
5. Blue grama
6. Buffalograss
7. Indiangrass

Legumes

1. Alfalfa
2. Sweetclover
3. Red clover
4. Field bean
5. Soybean
6. Vetch

Form 2. Weed seed identification.

Identification by name on list and classification according to the Nebraska Weed & Seed Laws must be indicated.

Classification:

Prohibited — P
Restricted — R
Common — C

<i>Name</i>	<i>Classification</i>
1. Canada thistle	Prohibited
2. Field bindweed	"
3. Hoary cress	"
4. Russian knapweed	"
6. Johnsongrass	"
7. Musk thistle	"
8. Scotch thistle	"
9. Plumeless thistle	"
10. Bursage (Franseria sp.)	"
11. Puncturevine	"
12. Tall morningglory	"
13. Curly dock	Restricted
14. Red sorrel	"
15. Dodder	"
16. Horsenettle	"
17. Field pennycress	"
18. Quackgrass	"
19. Wild mustard	"
20. Virginia pepperweed	Common
21. Crabgrass	"
22. Downy brome grass	"
23. Green foxtail	"
24. Yellow foxtail	"
25. Hairy chess	"
26. Hedge bindweed	"
27. Kochia	"
28. Lambsquarters	"
29. Redroot pigweed	"
30. Russian thistle	"
31. Sunflower	"
32. Velvetleaf	"
33. Wild buckwheat	"
34. Buffalobur	"
35. Field Sandbur	"
36. Pennsylvania smartweed	"
37. Barnyard grass	"
38. Fall panicum	"
39. Black nightshade	"
40. Common cocklebur	"

Form 3. Crops identification form.

Contestant No. _____

Score _____

(Check appropriate column)

Crop	Corn	Small Grain	Sorghums	Misc. Crops	Cool-Season Grass	Warm-Season Grass	Legumes
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17.							
18.							
19.							
20.							
21.							
22.							
23.							

Form 4. Weed seed identification form.

Contestant No. _____

Score _____

	Weed	(Check appropriate column)		
		Prohibited	Restricted	Common
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				

Form 5. Seed analysis form.

Contestant No. _____ Placing _____

Crop Judged _____ Score _____

Sample No. 1

I. Purity

A. Other crops, classes or types and inert material _____

B. Prohibited weeds _____

C. Restricted weeds _____

D. Common weeds _____

II. Condition

A. Color _____

B. Maturity _____

C. Disease Damage _____

D. Other Damage _____

E. Special Factors _____

Sample No. 3

I. Purity

A. Other crops, classes or types and inert material _____

B. Prohibited weeds _____

C. Restricted weeds _____

D. Common weeds _____

II. Condition

A. Color _____

B. Maturity _____

C. Disease Damage _____

D. Other Damage _____

E. Special Factors _____

Sample No. 2

I. Purity

A. Other crops, classes or types and inert material _____

B. Prohibited weeds _____

C. Restricted weeds _____

D. Common weeds _____

II. Condition

A. Color _____

B. Maturity _____

C. Disease Damage _____

D. Other Damage _____

E. Special Factors _____

Sample No. 4

I. Purity

A. Other crops, classes or types and inert material _____

B. Prohibited weeds _____

C. Restricted weeds _____

D. Common weeds _____

II. Condition

A. Color _____

B. Maturity _____

C. Disease Damage _____

D. Other Damage _____

E. Special Factors _____

Form 6. Terminology used in seed analysis.

<i>Factors</i>	<i>Wheat</i>	<i>Oats</i>	<i>Grain Sorghum</i>	<i>Soybeans</i>
I. Purity ¹ (three or more seed)	Other crops Other class Inert material Weeds	Other crops Other class Inert material Weeds	Other crops Non-gr sorg Inert material Weeds	Other crops Inert material Weeds
II. Condition and soundness				
A. Color	Good Fair (some bleaching) Poor (bleached)	Good Fair (some discoloration) Poor (dis-colored or weathered)	Good Fair (some discoloration) Poor (dis-colored or weathered)	Good Fair (some discoloration) Poor (dis-colored & weathered)
B. Maturity ¹	Mature Some immat. (green seed) Immature	Mature Some immat. (green seed) Immature	Mature Some immat. (green seed) Immature	Mature Some immat. (green seed) Immature
C. Disease damage ¹	Bunt, Scab, Blacktip Mold or Ergot	Mold	Smut, Mold	Mold Purple mottled
D. Other damage ¹	Heat, Sprout, Mechanical, Insect, etc.	Mechanical (skinned) Insect	Mechanical (broken) Insect, Sprout, Heat	Insect Mechanical (splits)
E. Special factors ¹	Soft texture (Yellowberry) Shrunken (shriveled)	Light weight (unfilled)	Shrunken (shriveled) Uniform or not uni. in size	Uniform or not uniform in size

¹Purity and certain condition and soundness factors should be mentioned only when inferior. However, the term "trace" may be mentioned when a factor is present only in negligible amounts, i.e., less than 3 seeds of mixture, slight evidence of immaturity, disease, damage, etc.

Form 7. Grain grading form—corn.

Contestant No. _____

SCORE _____

A. Yellow Corn 100.0% *y*
 Test Weight 55.5 lb. 2
 Moisture 13.2% 1
 Broken & Foreign Material 1.4% 1
 Total Damaged Kernels 4.5% 2
 Heat Damaged 0.3% 3

Grade & Class *U.S. Grade No. 3 Yellow Corn*

Factor(s) *Heat Damage*

B. Yellow Corn 99.0% *y*
 White Corn 1.0%
 Test Weight 56.0 lb. 1
 Moisture 12.4% 1
 Broken Corn & Foreign Material 0.8% 1
 Total Damaged Kernels 9.5% 4

Grade & Class *U.S. Grade No. 4 Yellow Corn*

Factor(s) *Total Damaged Kernels*

C. Yellow Corn 100.0% *y*
 Test Weight 55.0 lb. 2
 Moisture 21.5% 5
 Broken Corn & Foreign Material 0.6% 1
 Total Damaged Kernels 12.4% 5

Grade & Class *U.S. Grade No. 5 Yellow Corn*

Factor(s) *Moisture*

Total Damaged Kernels

D. White Corn 97.0% *M*
 Yellow Corn 3.0%
 Test Weight 57.0 lb. 1
 Moisture 11.8% 1
 Broken Corn & Foreign Material 0.8% 1
 Damaged Kernels 3.0% 1

Grade & Class *U.S. Grade No. 1 Mixed Corn*

Factor(s) *No degrading Factors*

Color

Form 8. Grain grading—hard red winter wheat.

Contestant No. _____

SCORE _____

1.	Test Weight	59.7 lb.	2	Grade & Subclass	<u>U.S. Grade No. 5 Yellow</u>
	Dark, hard & vitreous				
	kernels	38.0%	Y		<u>Hard Winter Wheat - .5% Dockage</u>
	Moisture	11.2%	-		
	Foreign material	3.2%	5	Factor(s)	<u>Foreign Material</u>
	Shrunken & broken	0.3%	1		
	Total damage	6.5%	3		
	Total defects	<u>1 0.0%</u>	4		
	White wheat	4.7%	4		
	Dockage	0.6%			

2.	Test Weight	62.5 lb.	1 Hvy	Grade & Subclass	<u>U.S. Grade No. 3 Heavy</u>
	Dark, hard & vitreous				
	kernels	83.0%	D		<u>Dark Hard Winter Wheat--.5% Dockage</u>
	Moisture	10.5%	-		
	Foreign material	0.4%	1	Factor(s)	<u>Heat Damage</u>
	Shrunken & broken	2.7%	1		
	Total damage	3.2%	2		<u>Total Defects</u>
	Heat damage	0.5%	3		
	Total defects	<u>6.3%</u>	3		<u>Test Weight - Special Grade</u>
	Dockage	0.5%			

3.	Test Weight	59.5 lb.	2	Grade & Subclass	<u>U.S. Sample</u>
	Dark, hard vitreous				
	kernels	58.0%	H		<u>Hard Winter Wheat, Tough-1.5% Dockage</u>
	Moisture	13.8%	T		
	Foreign material	0.9%	2	Factor(s)	<u>Distinct</u>
	Shrunken & broken	0.2%	1		
	Total damage	0.5%	1		<u>Low Quality - Pink Kernels</u>
	Total defects	<u>1.6%</u>	1		
	Pink kernels				<u>Moisture - Special Grade</u>
	Dockage	1.8%			

4.	Test Weight	62.5 lb.	Hvy	Grade & Subclass	<u>U.S. Grade No. 1 Heavy</u>
	Dark, hard & vitreous				
	kernels	64.0%	H		<u>Hard Winter Wheat</u>
	Moisture	12.5%	-		
	Foreign material	0.2%	1	Factor(s)	<u>No Degrading Factors</u>
	Shrunken & broken	0.3%	1		
	Total damage	0.3%	1		<u>Test Weight - Special Grade</u>
	Total defects	<u>0.8%</u>	1		
	Dockage	0.2%			