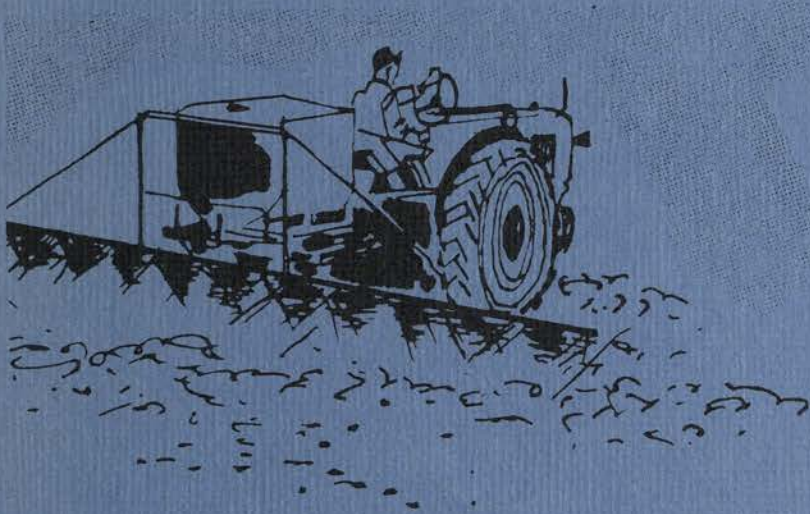


5
63
E26
#13

**AG
DOCUMENTS**

Keeping Up with Research No. 15

Report of 1974 Herbicide Data



AGRICULTURAL EXPERIMENT STATION
Floyd W. Smith, director

COOPERATIVE EXTENSION SERVICE
Robert A. Bohannon, director

Kansas State University of Agriculture and
Applied Science, Manhattan
Glenn H. Beck, Vice-President for Agriculture

Keeping Up with Research No. 15

Report of

1974 Herbicide Data

OLIVER G. RUSS, Weed Control Research
Agronomist, Department of Agronomy

Contribution No. 1481, Department of Agronomy

The information in this report is to inform cooperators in industry, colleagues at the University, producers, and other interested persons of the results of the 1974 field evaluation of herbicides used to control weeds in corn, grain sorghum, and soybeans. The information does not constitute a recommendation or endorsement. Weed control suggestions may be found in Report of Progress 222, "Chemical Weed Control in Field Crops, 1975."

Special acknowledgment and thanks are due to the following for support of the research reported:

Amchem Products, Inc.
American Cyanamid Company
BASF Wyandotte Corporation
Chemagro Corporation
Chipman Chemical Company, Inc.
CIBA-Geigy Corporation
Diamond Shamrock Company
Elanco Products Company
E. I. DuPont De Nemours and Company
Gulf Oil Chemical Company
Hercules Incorporated
Hopkins Agricultural Chemical Company
Mobil Chemical Company
Monsanto Chemical Company
NOR-AM Agricultural Products, Inc.
Shell Chemical Company
Stauffer Chemical Company
US Borax Research Corporation
Velsicol Chemical Corporation

We appreciate the efforts and cooperation of those who made this work possible.

Experiment Field Superintendents

C. W. Knight - Ottawa
N. E. Humburg - Rossville/Topeka
L. S. Axthelm
W. A. Moore - Hutchinson
R. J. Raney - Scandia
R. F. Sloan - Powhattan
D. J. Bonne - Minneola
G. R. TenEyck - St. John
M. C. Lundquist

Graduate Student

J. L. Kugler

Publications and public meetings by the Kansas Agricultural Experiment Station are available and open to the public regardless of race, color, national origin, sex, or religion.

TABLE OF CONTENTS

Page

Herbicide Evaluation on Corn at:

Powhattan.

Manhattan.

Scandia.

Topeka

Herbicide Evaluation on Wild Cane at:

Manhattan.

Rossville.

Herbicide Evaluation on Soybeans at:

Manhattan.

Powhattan.

Ottawa

Belleville

Rossville.

Herbicide Evaluation on Grain Sorghum at:

Manhattan.

Powhattan.

Ottawa

Belleville

Hutchinson

Minneola

St. John

Weed Control Research Plot Data

1. Location: Powhattan, Kansas Cooperator: R. E. Sloan
2. Soil: Texture Silty clay loam pH 6.0 Organic Matter 2.8
3. Planting: Date 5/8/74 Rate 18,600/A Depth 2.0"
4. Crop Corn Variety Trojan 119
5. Fertilizer Applied: N 118 P 42 K 0
6. Seedbed Condition: (X) Excellent () Fair () Poor () _____
7. Replications 3 Plot Size 10 ft x 30 ft
8. Gallons of Spray per Acre 30 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated 5/18/74
 Preemergent 5/8/74 Early Post 5/22/74
10. Precipitation after planting: 5/9 - .33" 5/11 - .31"
5/14 - .16" 5/17-1.83" 5/18 - .61"
5/27 - .07" 5/28- .16" 5/31 - .01"
11. Date of Crop Injury Rating _____; Weed Control Rating 9/16/74
12. Crop Maturity (Silking, 50% headed, etc.) --
13. Date Harvested 10/16/74
14. Summary: (Weed Control - predominant species, etc.)
 Predominant weed species present were velvetleaf, foxtail spp. and pigweed.
15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.)
 The Modown treatment caused leaf burning and a transverse band of puckering across the leaf. Moderate leaf burn and stunting was noted in the plot treated with Lasso/Sencor. Bladex plus oil applied early post caused slight leaf burning after application.
16. Summary: (Crop Yield)
 Yields were below normal for Kansas.

KANSAS STATE UNIVERSITY
AGRICULTURE DEPARTMENT

HERBICIDE PERFORMANCE
CORN 1974
POWHATTAN

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|---------------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. SUTAN + BLADEX | 3.0 + 1.2 | PPI | 8.1 | 9.7 | 9.2 | 0.0 |
| 2. LASSO + ATRAZINE | 2.5 + 1.5 | PPI | 9.4 | 9.5 | 9.2 | 0.0 |
| 3. ERADICANE + ATRAZINE | 4.0 + 1.0 | PPI | 12.2 | 9.8 | 9.8 | 0.0 |
| 4. SUTAN + FOX 4 | 3.0 + .75 | PPI | 17.4 | 9.7 | 9.7 | 0.0 |
| 5. SUTAN + ATRAZINE | 3.0 + 1.0 | PPI | 24.7 | 9.7 | 9.5 | 0.0 |
| 6. H 22234 + ATRAZINE | 1.5 + 1.0 | PRE | 6.9 | 7.5 | 9.2 | 0.0 |
| 7. PROWL + ATRAZINE | 1.5 + 1.0 | PRE | 9.7 | 8.3 | 8.3 | 0.0 |
| 8. ATRAZINE | 2.4 | PRE | 10.5 | 9.2 | 8.5 | 0.0 |
| 9. PROWL | 2.0 | PRE | 10.7 | 4.5 | 3.5 | 0.0 |
| 10. BLADEX + ATRAZINE | 1.2 + 1.2 | PRE | 11.3 | 9.0 | 8.5 | 0.0 |
| 11. LASSO | 3.0 | PRE | 12.9 | 2.5 | 6.5 | 0.0 |
| 12. RAMROD/ATRAZINE | 4.14 | PRE | 13.0 | 8.5 | 8.8 | 0.0 |
| 13. LOROX + LASSO | 1.0 + 2.0 | PRE | 13.1 | 7.0 | 9.2 | 0.0 |
| 14. LASSO + SENCOR | 2.0 + .375 | PRE | 13.8 | 9.7 | 9.7 | 6.0 |
| 15. ROWTATE + LASSO | 1.5 + 2.0 | PRE | 14.3 | 7.5 | 6.8 | 2.0 |
| 16. BLADEX | 3.0 | PRE | 14.6 | 8.8 | 8.2 | 0.7 |
| 17. MODDOWN + LASSO | 1.5 + 2.0 | PRE | 15.3 | 8.2 | 9.0 | 6.7 |
| 18. LASSO + ATRAZINE | 2.0 + 1.5 | PRE | 16.2 | 9.3 | 9.5 | 0.0 |
| 19. BLADEX + LASSO | 1.6 + 2.0 | PRE | 16.4 | 9.2 | 9.3 | 0.0 |
| 20. BLADEX + 1 GAL OIL | 2.0 | EP | 9.9 | 9.5 | 9.3 | 4.7 |
| 21. LASSO + ATRAZINE | 2.0 + 1.0 | EP | 13.0 | 9.7 | 9.5 | 0.0 |
| 22. OUTFOX 4L + 1 GAL OIL | .75 | EP | 19.0 | 9.2 | 5.5 | 0.7 |
| 23. ATRAZINE + GAL. OIL | 2.0 | EP | 20.1 | 9.8 | 9.5 | 0.0 |
| 24. HAND WEED | | | 9.4 | 10.0 | 9.7 | 0.0 |
| 25. NO TREATMENT | | | 7.9 | 0.0 | 0.0 | 0.0 |
| TEST AVERAGES | | | 13.4 | 8.2 | 8.2 | 0.8 |
| L.S.D. (.05) | | | NS | 2.8 | 2.9 | 1.6 |

* WHEN APPLIED: PRE (COMPLETE COVERAGE AFTER PLANTING)
PPI (PREPLANT INCORPORATED)
EP (EARLY POST)

** WEED CONTROL RATING: 10 - COMPLETE CONTROL
0 - NO CONTROL

*** CROP INJURY RATING: 10 - COMPLETE KILL
0 - NO INJURY

Weed Control Research Plot Data

1. Location: Manhattan, Kansas Cooperator: Oliver G. Russ
2. Soil: Texture Reading SL pH 6.5 Organic Matter 2.5
3. Planting: Date 5/15/74 Rate 1 seed/8" Depth 2.0"
4. Crop Corn Variety Pioneer 3517
5. Fertilizer Applied: N 103 P 46 K 0
6. Seedbed Condition: (X) Excellent () Fair () Poor () _____
7. Replications 3 Plot Size 10 ft x 30 ft
8. Gallons of Spray per Acre 20 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated 5/8/74
Preemergent 5/16/74 Early Post 5/28/74
10. Precipitation after planting: 5/8 - .35" 5/9 - .50"
5/10 - .15" 5/14 - .62" 5/18 - .10"
5/23 - .44" 5/25 - .50" 6/6 - .86"
11. Date of Crop Injury Rating --; Weed Control Rating 6/28/74
12. Crop Maturity (Silking, 50% headed, etc.) --
13. Date Harvested 9/17/74
14. Summary: (Weed Control - predominant species, etc.)
The plot area was overseeded with alfalfa seed screenings. The predominant weed species present were pigweed, foxtail, crabgrass, mustard, lambsquarter, ragweed, and carpetweed. Weed control was adequate in all plots.
15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.)
All early post treatments caused leaf burn right after application.
16. Summary: (Crop Yield)

Lack of precipitation during the growing season caused poor ear formation and yield was determined by crop forage. The no treatment yield was high because weed species contributed to total plot yield.

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

HERBICIDE PERFORMANCE
CORN 1974
MANHATTAN

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | TONS PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|---------------------------|------------------------|------------------|----------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. SUTAN + ATRAZINE | 3.0 + 1.0 | PPI | 13.8 | 10.0 | 9.5 | 0.0 |
| 2. ERADICANE + ATRAZINE | 4.0 + 1.0 | PPI | 14.0 | 10.0 | 10.0 | 0.0 |
| 3. LASSO + ATRAZINE | 2.5 + 1.5 | PPI | 14.6 | 9.8 | 9.3 | 0.0 |
| 4. SUTAN + BLADEX | 3.0 + 1.2 | PPI | 15.0 | 10.0 | 9.7 | 0.0 |
| 5. SUTAN + FOX 4 | 3.0 + .75 | PPI | 15.4 | 9.8 | 9.7 | 0.0 |
| 6. PROWL | 2.0 | PRE | 13.2 | 8.5 | 9.3 | 0.0 |
| 7. H 22234 + ATRAZINE | 1.5 + 1.0 | PRE | 13.8 | 9.8 | 9.3 | 0.0 |
| 8. LASSO + ATRAZINE | 2.0 + 1.5 | PRE | 13.9 | 9.8 | 6.8 | 0.0 |
| 9. RAMROD/ATRAZINE | 4.14 | PRE | 14.1 | 10.0 | 9.7 | 0.0 |
| 10. MODOWN + LASSO | 1.5 + 2.0 | PRE | 14.1 | 9.5 | 9.8 | 0.3 |
| 11. BLADEX + LASSO | 1.6 + 2.0 | PRE | 14.3 | 9.0 | 10.0 | 0.0 |
| 12. ATRAZINE | 2.4 | PRE | 14.4 | 7.0 | 6.2 | 0.0 |
| 13. ROWTATE + LASSO | 1.5 + 2.0 | PRE | 14.5 | 9.7 | 9.7 | 0.0 |
| 14. BLADEX + ATRAZINE | 1.2 + 1.2 | PRE | 14.6 | 9.8 | 9.2 | 0.0 |
| 15. LASSO + SENCOR | 2.0 + .375 | PRE | 14.6 | 9.2 | 9.8 | 0.0 |
| 16. PROWL + ATRAZINE | 1.5 + 1.0 | PRE | 14.7 | 10.0 | 9.8 | 0.0 |
| 17. BLADEX | 3.0 | PRE | 15.1 | 9.5 | 9.5 | 0.0 |
| 18. LASSO | 3.0 | PRE | 15.2 | 9.5 | 7.0 | 0.0 |
| 19. LOROX + LASSO | 1.0 + 2.0 | PRE | 15.7 | 9.8 | 7.0 | 0.0 |
| 20. ATRAZINE + GAL. OIL | 2.0 | EP | 14.0 | 10.0 | 5.7 | 0.0 |
| 21. BLADEX + 1 GAL OIL | 2.0 | EP | 14.0 | 8.7 | 9.0 | 0.7 |
| 22. LASSO + ATRAZINE | 2.0 + 1.0 | EP | 15.2 | 10.0 | 7.0 | 0.0 |
| 23. OUTFOX 4L + 1 GAL OIL | .75 | FP | 15.5 | 10.0 | 2.5 | 0.2 |
| 24. HAND WEED | | | 13.9 | 10.0 | 10.0 | 0.0 |
| 25. NO TREATMENT | | | 15.0 | 0.0 | 0.0 | 0.0 |
| TEST AVERAGES | | | 14.5 | 9.2 | 8.2 | 0.0 |
| L.S.D. (.05) | | | NS | 1.9 | 3.6 | 0.2 |

* WHEN APPLIED: PRE (COMPLETE COVERAGE AFTER PLANTING)
PPI (PREPLANT INCORPORATED)
EP (EARLY POST)

** WEED CONTROL RATING: 10 - COMPLETE CONTROL
0 - NO CONTROL

*** CROP INJURY RATING: 10 - COMPLETE KILL
0 - NO INJURY

Weed Control Research Plot Data

No-Till

1. Location: Scandia Cooperator: R. J. Raney
2. Soil: Texture Silt loam pH 5.8 Organic Matter 2.1
3. Planting: Date 5-2 Rate 24,561 Depth 2.0"
4. Crop Corn Variety Pioneer 3388
5. Fertilizer Applied: N 158 P 20 K 6
6. Seedbed Condition: () Excellent (X) Fair () Poor () _____
7. Replications 3 Plot Size 10 ft x 30 ft
8. Gallons of Spray per Acre 20 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated None
 Preemergent 5-2-74 Early Post 5-29-74
10. Precipitation after planting: May - 4.08 June - 2.27
July - 0.23 Aug. - 3.40 Sept. - 0.37
Total- 10.35"
11. Date of Crop Injury Rating 6-14 ; Weed Control Rating 8-28-74
12. Crop Maturity (Silking, 50% headed, etc.) _____
13. Date Harvested 9-26-74
14. Summary: (Weed Control - predominant species, etc.)
 Weeds present: pigweeds, foxtail, wild barley, crabgrass;
 some: smartweed, cocklebur, sunflower.
 No cultivation; furrowed for irrigation June 14.
15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.)
 Crop injury noted 6-14-74 was stunting.
 Irrigated: 6-21, 6-30, 7-9, 7-16, 7-24, 7-30. 20 inches total
 water applied.
16. Summary: (Crop Yield)
 Good for 1974.

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

NO-TILL
CORN 1974
SCANDIA

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|---------------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. H 22234 + ATRAZINE | 1.5 + 1.0 | PRE | 129.3 | 9.0 | 8.0 | 5.0 |
| 2. LASSO + SENCOR | 2.0 + .375 | PRE | 130.3 | 7.3 | 6.7 | 5.0 |
| 3. BLADEX | 3.0 | PRE | 136.7 | 7.7 | 7.7 | 5.0 |
| 4. LASSO | 3.0 | PRE | 139.7 | 9.3 | 9.3 | 0.0 |
| 5. PROWL | 2.0 | PRE | 141.0 | 6.3 | 9.0 | 0.0 |
| 6. LASSO + ATRAZINE | 2.0 + 1.5 | PRE | 142.0 | 9.3 | 8.7 | 0.0 |
| 7. PROWL + ATRAZINE | 1.5 + 1.0 | PRE | 143.0 | 9.0 | 9.7 | 5.0 |
| 8. BLADEX + LASSO | 1.6 + 2.0 | PRE | 144.0 | 9.7 | 9.7 | 0.0 |
| 9. ATRAZINE | 2.4 | PRE | 149.3 | 8.0 | 9.7 | 0.0 |
| 10. LOROX + LASSO | 1.0 + 2.0 | PRE | 152.3 | 9.3 | 9.7 | 0.0 |
| 11. BLADEX + ATRAZINE | 1.2 + 1.2 | PRE | 152.3 | 9.7 | 9.3 | 5.0 |
| 12. MODOWN + LASSO | 1.5 + 2.0 | PRE | 152.7 | 9.3 | 9.7 | 5.0 |
| 13. ROWTATE + LASSO | 1.5 + 2.0 | PRE | 154.7 | 8.0 | 9.7 | 0.0 |
| 14. RAMROD/ATRAZINE | 4.14 | PRE | 156.3 | 9.7 | 9.7 | 0.0 |
| 15. OUTFOX 4L + OIL(1GAL) | .75 | EP | 134.3 | 8.3 | 6.0 | 0.0 |
| 16. LASSO + ATRAZINE | 2.0 + 1.0 | EP | 147.7 | 8.0 | 8.7 | 0.0 |
| 17. BLADEX + OIL(1GAL) | 2.0 | EP | 152.3 | 8.7 | 8.7 | 5.0 |
| 18. ATRAZINE + OIL(1GAL) | 2.0 | EP | 159.0 | 7.7 | 7.3 | 0.0 |
| 19. HAND WEED | | | 166.0 | 9.0 | 9.7 | 0.0 |
| 20. NO TREATMENT | | | 134.7 | 4.3 | 9.7 | 0.0 |
| TEST AVERAGES | | | 145.9 | 8.4 | 8.8 | 1.8 |
| L.S.D. (.05) | | | NS | 2.1 | NS | NS |

* WHEN APPLIED: PRE (COMPLETE COVERAGE IMMEDIATELY AFTER PLANTING)
EP (EARLY POST)

** WEED CONTROL RATING: 10 - COMPLETE CONTROL
0 - NO CONTROL

*** CROP INJURY RATING: 10 - COMPLETE KILL
0 - NO INJURY

Weed Control Research Plot Data

Conventional Tillage

1. Location: Scandia Cooperator: R. J. Raney
2. Soil: Texture Silty clay loam pH 5.8 Organic Matter 2.0
3. Planting: Date 5-2-74 Rate 24,561 Depth 2.0"
4. Crop Corn Variety NC+ 85 SX
5. Fertilizer Applied: N 158 P 20 K 6
6. Seedbed Condition: () Excellent (X) Fair () Poor () _____
7. Replications 3 Plot Size 10 ft x 30 ft
8. Gallons of Spray per Acre 20 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated 5-1-74
Preemergent 5-2-74 Early Post 5-29-74
10. Precipitation after planting: May - 4.08 June - 2.27
July - 0.23 Aug. - 3.40 Sept. - 0.37
Total - 10.35"
11. Date of Crop Injury Rating 6-14-74; Weed Control Rating 9-17-74
12. Crop Maturity (Silking, 50% headed, etc.) _____
13. Date Harvested 9-30-74
14. Summary: (Weed Control - predominant species, etc.)
Pigweed, kochia, foxtail, crabgrass. No cultivation: furrowed for irrigation June 17.
15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.)
Crop injury noted in some plots 6-14-74. Irrigated: 6-28, 7-10, 7-20, 7-31. 13.0 inches total water applied.
16. Summary: (Crop Yield)
Fair for 1974.

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

HERBICIDE PERFORMANCE
CORN 1974
SCANDIA

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|---------------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. LASSO + ATRAZINE | 2.5 + 1.5 | PPI | 118.0 | 10.0 | 7.7 | 0.0 |
| 2. ERADICANE + ATRAZINE | 4.0 + 1.0 | PPI | 118.3 | 9.3 | 8.0 | 0.0 |
| 3. SUTAN + ATRAZINE | 3.0 + 1.0 | PPI | 119.7 | 10.0 | 7.0 | 0.0 |
| 4. SUTAN + BLADEX | 3.0 + 1.2 | PPI | 127.3 | 10.0 | 5.7 | 0.0 |
| 5. SUTAN + FOX 4 | 3.0 + .75 | PPI | 133.7 | 9.7 | 6.7 | 0.0 |
| 6. MODOWN + LASSO | 1.5 + 2.0 | PRE | 108.0 | 9.7 | 8.7 | 1.7 |
| 7. LASSO + SENCOR | 2.0 + .375 | PRE | 113.7 | 9.7 | 9.0 | 5.0 |
| 8. BLADEX + LASSO | 1.6 + 2.0 | PRE | 117.7 | 10.0 | 7.7 | 0.0 |
| 9. LASSO + ATRAZINE | 2.0 + 1.5 | PRE | 119.3 | 10.0 | 9.3 | 0.0 |
| 10. RAMROD/ATRAZINE | 4.14 | PRE | 123.0 | 10.0 | 9.0 | 0.0 |
| 11. ROWTATE + LASSO | 1.5 + 2.0 | PRE | 124.0 | 9.3 | 8.3 | 0.0 |
| 12. LASSO | 3.0 | PRE | 125.3 | 10.0 | 9.3 | 0.0 |
| 13. ATRAZINE | 2.4 | PRE | 125.3 | 10.0 | 7.0 | 0.0 |
| 14. PROWL + ATRAZINE | 1.5 + 1.0 | PRE | 128.0 | 10.0 | 9.3 | 0.0 |
| 15. H 22234 + ATRAZINE | 1.5 + 1.0 | PRE | 133.3 | 10.0 | 9.0 | 0.0 |
| 16. BLADEX | 3.0 | PRE | 135.0 | 10.0 | 9.7 | 0.0 |
| 17. LOROX + LASSO | 1.0 + 2.0 | PRE | 146.7 | 10.0 | 9.7 | 0.0 |
| 18. BLADEX + ATRAZINE | 1.2 + 1.2 | PRE | 151.7 | 10.0 | 9.7 | 0.0 |
| 19. PROWL | 2.0 | PRE | 151.7 | 10.0 | 9.3 | 0.0 |
| 20. LASSO + ATRAZINE | 2.0 + 1.0 | EP | 101.3 | 10.0 | 0.7 | 0.0 |
| 21. BLADEX + 1 GAL OIL | 2.0 | EP | 110.0 | 9.3 | 7.0 | 5.0 |
| 22. OUTFOX 4L + 1 GAL OIL | .75 | EP | 118.7 | 10.0 | 1.3 | 0.0 |
| 23. ATRAZINE + GAL. OIL | 2.0 | EP | 121.3 | 10.0 | 2.7 | 0.0 |
| 24. HAND WEED | | | 100.7 | 10.0 | 9.0 | 0.0 |
| 25. NO TREATMENT | | | 85.0 | 5.3 | 2.0 | 0.0 |
| TEST AVERAGES | | | 122.3 | 9.7 | 7.3 | 0.5 |
| L.S.D. (.05) | | | 27.3 | 1.2 | 2.9 | 1.0 |

* WHEN APPLIED:

PPI (PREPLANT INCORPORATED)

PRE (COMPLETE COVERAGE IMMEDIATELY AFTER

EP (EARLY POST)

PLANTING)

** WEED CONTROL RATING:

10 - COMPLETE CONTROL

0 - NO CONTROL

*** CROP INJURY RATING:

10 - COMPLETE KILL

0 - NO INJURY

Weed Control Research Plot Data
Herbicide Performance
Corn

1. Location: Topeka Cooperator: Neil Humburg and L. S. Axthelm
2. Soil: Texture Eudora SL pH 7.5 Organic Matter 1.0
3. Planting: Date 4/24/74 Rate 19,100 pl/A-6/1/74 Depth 2"
4. Crop Corn Variety Pioneer var. 3369A
5. Fertilizer Applied: N 230 P₂O₅ 40 K₂O 20 Zn 10
6. Seedbed Condition: (X) Excellent () Fair () Poor () _____
7. Replications 3 Plot Size 4 rows (30") x 30 ft
8. Gallons of Spray per Acre 20 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated 4/24/74
Preemergent 4/24/74 Early Post 5/22/74
10. Precipitation after planting: 4/28-0.05 4/29-1.56 4/30-T 5/1-T 5/2-T
5/4-0.02 5/9-0.22 5/10-0.73 5/11-0.04 5/13-0.97 5/14-0.02 5/16-0.11
5/17-0.13 5/18-0.01 5/19-T 5/21-0.37 5/23-0.29 5/25-0.14
11. Date of Crop Injury Rating 6/1/74; Weed Control Rating 6/1/74
12. Crop Maturity (Silking, 50% headed, etc.) Ht: 16"
13. Date Harvested --
14. Summary: (Weed Control - predominant species, etc.) Area in weeds in the summer of 1973. Uniform weed infestations in 1974 with dense stands of foxtail and crabgrass, and a moderate to heavy stand of sunflowers. Light stands of pigweed and lambsquarter made ratings on these less accurate. Some grass in tractor wheel tracks escaped control in plots treated with Sutan⁺- and Eradicane-triazine combinations (the sprayer boom was in front of the tractor drive wheels). Early postemergent (weeds 1-2") treatments were not satisfactory; herbicides were applied at 6-7:00 pm with rain several hours later.
15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.) Rated for foliar injury. There was severe corn injury from Sencor - stunting, chlorosis, leaf burn, and killed plants - as the rate was too high for a low OM soil. There was height reduction and chlorosis from Bladex for the same reason. Rowtate reduced height slightly. Modown leaf injury (necrotic band) was very slight. Early-post treatments of atrazine, Lasso + atrazine and Bladex caused injury, whereas injury from early-post Outfox was negligible.
16. Summary: (Crop) Dryland. Increased vigor and darker green foliage were observed in plots having the following treatments: Eradicane + AAtrex, Sutan⁺ + AAtrex, Sutan⁺ + Fox 4, Prowl, and Prowl + AAtrex. Zinc deficiency symptoms on corn were evident during the first 5 weeks after planting - the deficiency appeared to be uniform over the entire research area.

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

HERBICIDE PERFORMANCE
CORN 1974
KANSAS RIVER VALLEY

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|---------------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. SUTAN + ATRAZINE | 3.0 + 1.0 | PPI | 73.0 | 10.0 | 9.3 | 0.0 |
| 2. SUTAN + BLADEX | 3.0 + 1.2 | PPI | 88.3 | 9.0 | 9.0 | 0.0 |
| 3. SUTAN + FOX 4 | 3.0 + .75 | PPI | 113.7 | 10.0 | 9.3 | 1.0 |
| 4. ERADICANE + ATRAZINE | 4.0 + 1.0 | PPI | 115.3 | 10.0 | 9.3 | 0.3 |
| 5. LASSO + ATRAZINE | 2.5 + 1.5 | PPI | 131.0 | 10.0 | 8.7 | 0.7 |
| 6. LASSO | 3.0 | PRE | 17.3 | 6.3 | 9.0 | 0.3 |
| 7. MODOWN + LASSO | 1.5 + 2.0 | PRE | 32.3 | 5.7 | 7.7 | 0.7 |
| 8. LASSO + SENCOR | 2.0 + .375 | PRE | 45.0 | 9.7 | 9.0 | 7.0 |
| 9. PROWL | 2.0 | PRE | 50.7 | 4.0 | 8.7 | 0.0 |
| 10. ROWTATE + LASSO | 1.5 + 2.0 | PRE | 71.7 | 8.7 | 8.0 | 1.3 |
| 11. LOROX + LASSO | 1.0 + 2.0 | PRE | 85.7 | 8.3 | 9.0 | 0.0 |
| 12. BLADEX + ATRAZINE | 1.2 + 1.2 | PRE | 90.7 | 10.0 | 9.7 | 1.3 |
| 13. LASSO + ATRAZINE | 2.0 + 1.5 | PRE | 93.7 | 10.0 | 10.0 | 0.7 |
| 14. ATRAZINE | 2.4 | PRE | 99.0 | 10.0 | 10.0 | 0.3 |
| 15. BLADEX + LASSO | 1.6 + 2.0 | PRE | 99.7 | 10.0 | 9.0 | 0.0 |
| 16. BLADEX | 3.0 | PRE | 111.3 | 10.0 | 9.0 | 1.3 |
| 17. RAMROD/ATRAZINE | 4.14 | PRE | 117.0 | 10.0 | 9.3 | 0.0 |
| 18. H 22234 + ATRAZINE | 1.5 + 1.0 | PRE | 117.3 | 10.0 | 9.3 | 0.0 |
| 19. PROWL + ATRAZINE | 1.5 + 1.0 | PRE | 124.3 | 10.0 | 9.3 | 0.0 |
| 20. LASSO + ATRAZINE | 2.0 + 1.0 | EP | 62.7 | 9.3 | 4.0 | 4.7 |
| 21. ATRAZINE + GAL. OIL | 2.0 | EP | 78.0 | 10.0 | 3.7 | 3.7 |
| 22. BLADEX + 1 GAL OIL | 2.0 | EP | 81.0 | 8.7 | 7.7 | 4.3 |
| 23. OUTFOX 4L + 1 GAL OIL | .75 | EP | 90.0 | 8.7 | 5.7 | 0.7 |
| 24. HAND WEED | | | 20.3 | 10.0 | 10.0 | 0.0 |
| 25. NO TREATMENT | | | 17.7 | 0.0 | 0.0 | 0.0 |
| TEST AVERAGES | | | 81.1 | 8.7 | 8.1 | 1.1 |
| L.S.D. (.05) | | | 44.8 | 1.3 | 1.4 | 1.5 |

* WHEN APPLIED:

PRE (COMPLETE COVERAGE AFTER PLANTING)
PPI (PREPLANT INCORPORATED)
EP (EARLY POST)

** WEED CONTROL RATING:

10 - COMPLETE CONTROL
0 - NO CONTROL

*** CROP INJURY RATING:

10 - COMPLETE KILL
0 - NO INJURY

Weed Control Research Plot Data

1. Location: Manhattan, Kansas Cooperator: Oliver G. Russ
2. Soil: Texture Reading SL pH 6.5 Organic Matter 2.5
3. Planting: Date 5/7/74 Rate 1 seed/8" Depth 2"
4. Crop Corn Variety Pioneer 3517
5. Fertilizer Applied: N 103 P 46 K 0
6. Seedbed Condition: (X) Excellent () Fair () Poor () _____
7. Replications 3 Plot Size 10 ft x 30 ft
8. Gallons of Spray per Acre 20 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated 5/6/74
 Preemergene -- Early Post --
10. Precipitation after planting: 5/8 - .35" 5/9 - .50"
5/10 - .15" 5/14 - .62" 5/18 - .10"
5/23 - .44" 5/25 - .50" 6/6 - .86"
11. Date of Crop Injury Rating --; Weed Control Rating 7/1/74
12. Crop Maturity (Silking, 50% headed, etc.) _____
13. Date Harvested No harvest
14. Summary: (Weed Control - predominant species, etc.)
 Plot area was overseeded with wild cane. Predominant weed species present were wild cane, foxtail spp., sunflower, and velvetleaf.
15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.)
 No apparent crop injury occurred from herbicide treatments.
16. Summary: (Crop Yield)
 This test not carried to yield.

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

WILD CANE CONTROL
CORN 1974
MANHATTAN

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|-------------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. ERADICANE + ATRAZINE | 4.0 + 1.0 | PPI | 0.0 | 9.3 | 6.3 | 0.0 |
| 2. ERADICANE + ATRAZINE | 6.0 + 1.0 | PPI | 0.0 | 9.8 | 6.8 | 0.0 |
| 3. ERADICANE + BLADEX | 4.0 + 2.0 | PPI | 0.0 | 9.8 | 9.7 | 0.0 |
| 4. ERADICANE + BLADEX | 3.0 + 1.5 | PPI | 0.0 | 10.0 | 10.0 | 0.0 |
| 5. ERADICANE | 4.0 | PPI | 0.0 | 8.7 | 3.8 | 0.0 |
| 6. SUTAN + ATRAZINE | 4.0 + 1.0 | PPI | 0.0 | 9.3 | 7.7 | 0.0 |
| 7. SUTAN + BLADEX | 4.0 + 1.0 | PPI | 0.0 | 8.7 | 8.3 | 0.0 |
| 8. BLADEX | 3.0 | PPI | 0.0 | 10.0 | 6.7 | 0.0 |
| 9. AVADEX | 4.0 | PPI | 0.0 | 5.7 | 8.5 | 0.0 |
| 10. AVADEX + LASSO | 2.0 + 2.0 | PPI | 0.0 | 9.0 | 7.7 | 0.0 |
| 11. LASSO | 4.0 | PPI | 0.0 | 8.8 | 7.2 | 0.0 |
| 12. PREFOX | 4.0 QT. | PPI | 0.0 | 9.8 | 7.2 | 0.0 |
| 13. EPTAM + ATRAZINE | 4.0 + 1.0 | PPI | 0.0 | 9.5 | 9.7 | 0.0 |
| 14. NO TREATMENT | | | 0.0 | 0.0 | 0.0 | 0.0 |
| 15. VERNAM + ATRAZINE | 4.0 + 1.0 | PPI | 0.0 | 10.0 | 9.7 | 0.0 |
| 16. VERNAM + BLADEX | 4.0 + 2.0 | PPI | 0.0 | 9.7 | 9.8 | 0.2 |
| TEST AVERAGES | | | 0.0 | 8.6 | 7.4 | 0.0 |
| L.S.D. (.05) | | | 0.0 | 1.6 | NS | 0.1 |

* WHEN APPLIED: PPI (PREPLANT INCORPORATED)

** WEED CONTROL RATING: 10 - COMPLETE CONTROL
0 - NO CONTROL

*** CROP INJURY RATING: 10 - COMPLETE KILL
0 - NO INJURY

Weed Control Research Plot Data
CHEMICAL CONTROL OF WILD CANE IN CORN - 1974

1. Location: Rossville Cooperator: N. E. Humburg & L. S. Axthelm
2. Soil: Texture Eudora silt loam pH 5.8 Organic Matter 1.9%
3. Planting: Date 4/26/74 Rate 23,000 plants/A Depth 2"
4. Crop Corn planted on 30" ridges Variety Pioneer var. 3369A
5. Fertilizer Applied: N 225 lb/A P₂O₅ 40 lb/A K₂O 30 lb/A
6. Seedbed Condition: () Excellent (X) Fair () Poor () Dry, loose
7. Replications 4 Plot Size 4 rows (30") x 100 ft
8. Gallons of Spray per Acre 30 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated 4/25/74
Preemergent -- Early Post --
10. Precipitation after planting: 4/29 - 0.45" 4/30 - 0.90" 5/ 9 - 0.34"
5/10-0.55" 5/11-0.04" 5/14-1.10" 5/17-1.41" 5/24-0.28" 5/26 - 0.20"
6/4 - T 6/ 5-0.04" 6/ 6-1.76" 6/ 7-0.76" 6/ 9-0.98" 6/11 - 0.52"
11. Date of Crop Injury Rating 6/24/74; Weed Control Rating 6/24/74
12. Crop Maturity (Silking, 50% headed, etc.) corn height = 4.5 ft
13. Date Harvested --
14. Summary: (Weed Control - predominant species, etc.) The area, with a natural infestation of wild cane, was overseeded with wild cane giving a dense, uniform stand. Stands of other weed species (including pigweed, ivyleaf morningglory, climbing milkweed, smartweed, foxtail spp. and crabgrass) were too sparse for control ratings. Rain with wind reduced the height of ridges which exposed untreated soil or diminished the amount of treated soil in the corn rows. Wild cane was controlled between rows (in furrows) by all treatments except Bladex and Prefox. Refurrowing to move herbicide-treated soil to the base of corn plants would have improved control of wild cane. Wild cane plants averaged 2 ft in height in herbicide-treated plots; height of wild cane in untreated plots was the same as corn plants.
15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.) Rated for foliar injury. The only apparent injury was some reduction of corn height in plots treated with Bladex or Bladex combinations. The field was leveled for irrigation in 1972; soil irregularities persist, which would influence susceptibility to certain herbicides. Chlorosis was not observed when corn was 8-12" tall.
16. Summary: (Crop) Irrigated study. Normal crop growth to date.
Note: Individual-plot photographs taken 6/26/74.

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

WILD CANE CONTROL
CORN 1974
KANSAS RIVER VALLEY

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|-------------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. BLADEX | 3.0 | PPI | 76.0 | 9.1 | 7.1 | 0.0 |
| 2. PREFOX | 4.0 QTS | PPI | 90.8 | 9.2 | 6.5 | 0.0 |
| 3. VERNAM + ATRAZINE | 4.0 + 1.0 | PPI | 101.0 | 9.3 | 8.8 | 0.0 |
| 4. SUTAN + BLADEX | 4.0 + 2.0 | PPI | 106.0 | 8.9 | 8.6 | 0.0 |
| 5. VERNAM + BLADEX | 4.0 + 2.0 | PPI | 110.0 | 9.7 | 9.1 | 0.0 |
| 6. ERADICANE + ATRAZINE | 6.0 + 1.0 | PPI | 113.3 | 9.5 | 9.4 | 0.0 |
| 7. ERADICANE + BLADEX | 4.0 + 2.0 | PPI | 113.8 | 9.5 | 9.4 | 0.0 |
| 8. SUTAN + ATRAZINE | 4.0 + 1.0 | PPI | 114.3 | 9.2 | 8.6 | 0.0 |
| 9. ERADICANE + ATRAZINE | 4.0 + 1.0 | PPI | 121.0 | 9.7 | 9.2 | 0.0 |
| 10. NO TREATMENT | | | 9.5 | 0.0 | 0.0 | 0.0 |
| TEST AVERAGES | | | 95.5 | 8.4 | 7.7 | 0.0 |
| L.S.D. (.05) | | | 21.5 | 0.9 | 1.3 | 0.0 |

* WHEN APPLIED: PPI (PREPLANT INCORPORATED)

** WEED CONTROL RATING: 10 - COMPLETE CONTROL
0 - NO CONTROL

*** CROP INJURY RATING: 10 - COMPLETE KILL
0 - NO INJURY

Weed Control Research Plot Data

1. Location: Manhattan, Kansas Cooperator: Oliver G. Russ
2. Soil: Texture Reading SL pH 6.5 Organic Matter 2.5
3. Planting: Date 5/22/74 Rate 10 beans/ft row Depth 2.0"
4. Crop Soybeans Variety Williams
5. Fertilizer Applied: N 103 P 46 K 0
6. Seedbed Condition: (X) Excellent () Fair () Poor () _____
7. Replications 3 Plot Size 10 ft x 30 ft
8. Gallons of Spray per Acre 20 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated 5/21/74
Preemergent 5/22/74 Early Post --
10. Precipitation after planting: 5/23 - .44" 5/25 - .50"
6/6 - .86" 6/7 - 1.35" 6/8 - 1.55"
6/11 - .48" 6/13 - .32" 7/4 - .45"
11. Date of Crop Injury Rating 7/2/74; Weed Control Rating 7/2/74
12. Crop Maturity (Silking, 50% headed, etc.) --
13. Date Harvested 10/9/74
14. Summary: (Weed Control - predominant species, etc.)

The plot area was overseeded with alfalfa seed screenings. The predominant weed species present were pigweed, foxtail spp., crabgrass, mustard, lambsquarter, ragweed, and carpetweed. Poor weed control was noted from all dinitroaniline compounds when not used in combination.

15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.)
All herbicide treatments containing Sencor caused moderate stunting and leaf burn. Beans on plots treated with Sencor plus Antor showed the greatest herbicide injury. Beans were slow to emerge with plots treated with Vernam, Cobex and Lasso plus Bladex.
16. Summary: (Crop Yield)

Soybean yields were above average for Kansas.

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

HERBICIDE PERFORMANCE
SOYBEAN 1974
MANHATTAN

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|--------------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. PLANAVIN | 1.0 | PPI | 23.7 | 0.0 | 7.7 | 0.0 |
| 2. TOLBAN + BROMEX | 1.0 + 1.5 | PPI | 41.1 | 4.3 | 8.8 | 0.0 |
| 3. COBEX | .5 | PPI | 41.5 | 5.8 | 8.7 | 0.0 |
| 4. TOLBAN | 1.0 | PPI | 43.4 | 3.8 | 9.2 | 0.0 |
| 5. TREFLAN | 1.0 | PPI | 45.8 | 5.7 | 9.5 | 0.0 |
| 6. VERNAM | 3.0 | PPI | 50.0 | 7.7 | 9.0 | 0.0 |
| 7. TREFLAN + PASGN.(EP) | .75 + .75 | PPI | 51.5 | 7.0 | 8.8 | 0.0 |
| 8. TREFLAN + SENCOR | .75 + .37 | PPI | 53.4 | 8.7 | 9.0 | 0.2 |
| 9. TREFLAN + SENCOR(PRE) | .75 + .5 | PPI | 58.9 | 9.7 | 10.0 | 0.0 |
| 10. SOYEX | 4.5 | PRE | 44.7 | 6.5 | 7.7 | 0.0 |
| 11. H 22234 + SENCOR | 1.5 + .375 | PRE | 50.7 | 8.8 | 9.5 | 1.3 |
| 12. LASSO | 2.5 | PRE | 51.1 | 6.8 | 9.3 | 0.0 |
| 13. LASSO + MALORAN | 1.5 + 1.5 | PRE | 51.8 | 7.2 | 8.7 | 0.0 |
| 14. SENCOR | .5 | PRE | 53.6 | 9.3 | 9.5 | 2.8 |
| 15. SURFLAN + SENCOR | 1.0 + .375 | PRE | 53.7 | 9.7 | 9.2 | 1.3 |
| 16. LASSO + SENCOR | 1.5 + .375 | PRE | 54.0 | 8.8 | 9.7 | 0.0 |
| 17. SOYEX + SENCOR | 3.0 + .375 | PRE | 54.2 | 8.8 | 9.2 | 0.0 |
| 18. LASSO + LOROX | 1.5 + 1.0 | PRE | 54.4 | 8.2 | 8.8 | 0.0 |
| 19. LASSO + BASGN.(EP) | 2.5 + .75 | PRE | 54.7 | 9.5 | 9.3 | 0.0 |
| 20. LASSO + MODOWN | 1.5 + 1.5 | PRE | 55.0 | 7.8 | 9.0 | 0.0 |
| 21. LASSO + BLADEX | 1.5 + 1.5 | PRE | 58.2 | 8.7 | 9.2 | 0.2 |
| 22. AMEX 820 + SENCOR | 1.5 + .375 | PPI | 44.4 | 9.2 | 8.5 | 0.2 |
| 23. AMIBEN | 3.0 | PRE | 54.4 | 8.5 | 9.5 | 0.0 |
| 24. HAND WEED | | | 56.5 | 8.5 | 9.5 | 0.0 |
| 25. NO TREATMENT | | | 0.0 | 0.0 | 0.0 | 0.0 |
| TEST AVERAGES | | | 48.0 | 7.2 | 8.7 | 0.2 |
| L.S.D. (.05) | | | 7.5 | 1.1 | 0.5 | 0.6 |

* WHEN APPLIED: PRE (COMPLETE COVERAGE AFTER PLANTING)
PPI (PREPLANT INCORPORATED)
EP (EARLY POST)

** WEED CONTROL RATING: 10 - COMPLETE CONTROL
0 - NO CONTROL

*** CROP INJURY RATING: 10 - COMPLETE KILL
0 - NO INJURY

Weed Control Research Plot Data

1. Location: Powhattan, Kansas Cooperator: R. F. Sloan
2. Soil: Texture Silty clay loam pH 6.0 Organic Matter 2.8
3. Planting: Date 5/23/74 Rate 70#/A Depth 2.0"
4. Crop Soybeans Variety Williams
5. Fertilizer Applied: N 0 P 0 K 0
6. Seedbed Condition: (X) Excellent () Fair () Poor () _____
7. Replications 3 Plot Size 10 ft x 30 ft
8. Gallons of Spray per Acre 20 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated 5/23/74
 Preemergent 5/23/74 Early Post 6/5/74
10. Precipitation after planting: 5/27 - .07" 5/29 - .16"
5/31 - .01" 6/6 - .65" 6/7 - .34"
6/8 - 2.85" 6/9 - .10" 6/10 - .05"
11. Date of Crop Injury Rating 6/17/74; Weed Control Rating 9/16/74
12. Crop Maturity (Silking, 50% headed, etc.) --
13. Date Harvested 10/3/74
14. Summary: (Weed Control - predominant species, etc.)
 Predominant weed species present were velvetleaf, foxtail spp. and pigweed.
15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.)
 All herbicide treatments containing Sencor caused moderate stunting and leaf burn. Beans on plots treated with Vernam, Cobex, and Soyex caused moderate soybean injury.
16. Summary: (Crop Yield)
 Yields were below normal for Kansas.

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

HERBICIDE PERFORMANCE
SOYBEANS 1974
POWHATTAN

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|---------------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. CCBEX | .5 | PPI | 19.6 | 6.0 | 8.7 | 0.0 |
| 2. TREFLAN | 1.0 | PPI | 21.1 | 6.7 | 9.8 | 0.0 |
| 3. TOLBAN + BROMEX | 1.0 + 1.5 | PPI | 21.6 | 8.8 | 9.3 | 0.0 |
| 4. TOLBAN | 1.0 | PPI | 22.5 | 5.8 | 9.3 | 0.0 |
| 5. TREFLAN + SENCOR (PRE) | .75 + .5 | PPI | 23.3 | 9.7 | 9.8 | 4.0 |
| 6. PLANAVIN | 1.0 | PPI | 23.8 | 9.0 | 8.8 | 0.0 |
| 7. TREFLAN + SENCOR | .75 + .37 | PPI | 24.0 | 10.0 | 9.8 | 2.7 |
| 8. VERNAM | 3.0 | PPI | 24.8 | 10.0 | 9.0 | 2.0 |
| 9. TREFLAN + BASGN. (EP) | .75 + .75 | PPI | 25.7 | 8.8 | 9.8 | 0.0 |
| 10. SENCOR | .5 | PRE | 18.9 | 10.0 | 9.7 | 7.3 |
| 11. H 22234 + SENCOR | 1.5 + .375 | PRE | 19.3 | 10.0 | 9.3 | 6.7 |
| 12. SURFLAN + SENCOR | 1.0 + .375 | PRE | 20.5 | 10.0 | 9.8 | 6.0 |
| 13. LASSO + BLADEX | 1.5 + 1.5 | PRE | 20.6 | 9.2 | 9.0 | 0.0 |
| 14. LASSO + LOROX | 1.5 + 1.0 | PRE | 21.3 | 7.7 | 8.3 | 0.0 |
| 15. LASSO | 2.5 | PRE | 21.8 | 9.5 | 9.3 | 0.0 |
| 16. LASSO + MODOWN | 1.5 + 1.5 | PRE | 23.3 | 8.8 | 8.2 | 4.7 |
| 17. LASSO + MALDRAN | 1.5 + 1.5 | PRE | 23.8 | 8.5 | 8.5 | 0.0 |
| 18. SOYEX + SENCOR | 3.0 + .375 | PRE | 24.9 | 8.8 | 7.3 | 2.7 |
| 19. LASSO + BASGN. (EP) | 2.5 + .75 | PRE | 25.3 | 8.5 | 8.0 | 0.0 |
| 20. LASSO + SENCOR | 1.5 + .375 | PRE | 25.5 | 9.5 | 8.3 | 2.0 |
| 21. SOYEX | 4.5 | PRE | 27.0 | 5.8 | 4.5 | 4.7 |
| 22. AMEX 820 + SENCOR | 1.5 + .375 | PPI | 21.8 | 10.0 | 9.3 | 2.7 |
| 23. AMIBEN | 3.0 | PRE | 24.7 | 8.7 | 9.3 | 0.0 |
| 24. HAND WFFD | | | 22.4 | 9.8 | 9.8 | 0.0 |
| 25. NO TREATMENT | | | 22.9 | 1.3 | 2.7 | 0.0 |
| TEST AVERAGES | | | 22.8 | 8.4 | 8.6 | 1.8 |
| L.S.D. (.05) | | | NS | 3.5 | 2.6 | 1.2 |

* WHEN APPLIED: PRE (COMPLETE COVERAGE AFTER PLANTING)
 PPI (PREPLANT INCORPORATED)
 EP (EARLY POST)

** WEED CONTROL RATING: 10 - COMPLETE CONTROL
 0 - NO CONTROL

*** CROP INJURY RATING: 10 - COMPLETE KILL
 0 - NO INJURY

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

HERBICIDE PERFORMANCE
SOYBEANS 1974
OTTAWA

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | RU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|---------------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. TREFLAN + SENCOR (PRE) | .75 + .5 | PPI | 19.7 | 9.7 | 10.0 | 0.0 |
| 2. TREFLAN | 1.0 | PPI | 20.0 | 8.0 | 10.0 | 0.0 |
| 3. TREFLAN + SENCOR | .75 + .37 | PPI | 20.3 | 9.0 | 9.3 | 0.0 |
| 4. TOLBAN + BROMEX | 1.0 + 1.5 | PPI | 20.9 | 7.3 | 9.7 | 0.0 |
| 5. PLANAVIN | 1.0 | PPI | 21.1 | 7.3 | 8.0 | 0.0 |
| 6. TREFLAN + BASGN. (EP) | .75 + .75 | PPI | 21.5 | 6.7 | 9.3 | 0.0 |
| 7. COBEX | .5 | PPI | 21.8 | 8.3 | 10.0 | 0.0 |
| 8. VERNAM | 3.0 | PPI | 22.6 | 8.3 | 9.3 | 0.0 |
| 9. TOLBAN | 1.0 | PPI | 23.9 | 5.3 | 7.3 | 0.0 |
| 10. LASSO | 2.5 | PRE | 20.3 | 6.7 | 9.0 | 0.0 |
| 11. LASSO + SENCOR | 1.5 + .375 | PRE | 20.8 | 9.3 | 9.7 | 0.0 |
| 12. LASSO + LOROX | 1.5 + 1.0 | PRE | 20.9 | 9.0 | 10.0 | 0.0 |
| 13. SENCOR | .5 | PRE | 20.9 | 10.0 | 9.7 | 0.0 |
| 14. LASSO + MALORAN | 1.5 + 1.5 | PRE | 21.3 | 8.7 | 9.3 | 0.0 |
| 15. SURFLAN + SENCOR | 1.0 + .375 | PRE | 21.4 | 8.7 | 9.3 | 0.0 |
| 16. LASSO + MODDOW | 1.5 + 1.5 | PRE | 21.5 | 7.3 | 8.0 | 0.0 |
| 17. LASSO + BASGN. (EP) | 2.5 + .75 | PRE | 21.8 | 9.0 | 9.3 | 0.0 |
| 18. SOYEX | 4.5 | PRE | 21.9 | 6.7 | 8.0 | 0.0 |
| 19. LASSO + BLADDEX | 1.5 + 1.5 | PRE | 22.1 | 8.3 | 9.3 | 0.0 |
| 20. H 22234 + SENCOR | 1.5 + .375 | PRE | 22.4 | 9.7 | 10.0 | 0.0 |
| 21. SOYEX + SENCOR | 3.0 + .375 | PRE | 22.7 | 9.0 | 10.0 | 0.0 |
| 22. AMEX 820 + SENCOR | 1.5 + .375 | PPI | 23.7 | 9.3 | 10.0 | 0.0 |
| 23. AMIBEN | 3.0 | PRE | 20.5 | 8.0 | 7.7 | 0.0 |
| 24. HAND WEED | | | 19.0 | 9.3 | 9.7 | 0.0 |
| 25. NO TREATMENT | | | 20.3 | 2.7 | 2.0 | 0.0 |
| TEST AVERAGES | | | 21.3 | 8.1 | 9.0 | 0.0 |
| L.S.D. (.05) | | | NS | 2.4 | 2.4 | 0.0 |

* WHEN APPLIED: PRE (COMPLETE COVERAGE AFTER PLANTING)
PPI (PREPLANT INCORPORATED)
EP (EARLY POST)

** WEED CONTROL RATING: 10 - COMPLETE CONTROL
C - NO CONTROL

*** CROP INJURY RATING: 10 - COMPLETE KILL
C - NO INJURY

Weed Control Research Plot Data

1. Location: Belleville, Kansas Cooperator: R. J. Raney
2. Soil: Texture Silt loam pH 7.1 Organic Matter 1.8
3. Planting: Date 5-31-74 Rate 8 seeds/ft Depth 2"
4. Crop Soybeans Variety Cutler 71
5. Fertilizer Applied: N 16 P 20 K 6
6. Seedbed Condition: () Excellent (X) Fair () Poor () _____
7. Replications 3 Plot Size 10' x 30'
8. Gallons of Spray per Acre 20 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated 5-31-74
Preemergent 5-31-74 Early Post _____
10. Precipitation after planting: June - 2.27 July - 0.23
Aug. - 3.40 Sept. - 0.37 Oct. - 1.76
11. Date of Crop Injury Rating --; Weed Control Rating 9-18-74
12. Crop Maturity (Silking, 50% headed, etc.) Frost 9-2 and 10-15
13. Date Harvested 10-16-74
14. Summary: (Weed Control - predominant species, etc.)
Pigweed, kochia, foxtail, crabgrass
15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.)
None observed - 9-18-74
16. Summary: (Crop Yield)

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

HERBICIDE PERFORMANCE
SOYBEAN 1974
BELLEVILLE

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|---------------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. TREFLAN | 1.0 | PPI | 20.6 | 2.3 | 8.3 | 0.0 |
| 2. COBEX | .5 | PPI | 21.7 | 2.7 | 8.7 | 0.0 |
| 3. PLANAVIN | 1.0 | PPI | 22.3 | 2.0 | 8.7 | 0.0 |
| 4. TREFLAN + SENCOR | .75 + .37 | PPI | 23.9 | 5.0 | 9.3 | 0.0 |
| 5. VERNAM | 3.0 | PPI | 24.2 | 7.0 | 8.3 | 0.0 |
| 6. TREFLAN + SENCOR (PRE) | .75 + .5 | PPI | 24.2 | 6.0 | 8.3 | 0.0 |
| 7. TOLBAN | 1.0 | PPI | 24.9 | 4.7 | 8.0 | 0.0 |
| 8. TREFLAN + BASGN. (FP) | .75 + .75 | PPI | 25.1 | 6.0 | 9.3 | 0.0 |
| 9. TOLBAN + BROMEX | 1.0 + 1.5 | PPI | 25.9 | 5.3 | 8.7 | 0.0 |
| 10. LASSO + BASGN. (FP) | 2.5 + .75 | PRE | 24.7 | 9.7 | 9.3 | 0.0 |
| 11. LASSO + MODOWN | 1.5 + 1.5 | PRE | 25.3 | 8.3 | 9.0 | 0.0 |
| 12. LASSO | 2.5 | PRE | 25.5 | 8.7 | 9.0 | 0.0 |
| 13. SOYEX | 4.5 | PRE | 25.5 | 2.7 | 8.7 | 0.0 |
| 14. H 22234 + SENCOR | 1.5 + .375 | PRE | 25.8 | 9.7 | 10.0 | 0.0 |
| 15. LASSO + SENCOR | 1.5 + .375 | PRE | 26.9 | 7.7 | 10.0 | 0.0 |
| 16. LASSO + BLADEX | 1.5 + 1.5 | PRE | 27.0 | 7.7 | 9.3 | 0.0 |
| 17. SURFLAN + SENCOR | 1.0 + .375 | PRE | 27.1 | 8.7 | 10.0 | 0.0 |
| 18. SOYEX + SENCOR | 3.0 + .375 | PRE | 27.4 | 8.0 | 9.0 | 0.0 |
| 19. LASSO + LOROX | 1.5 + 1.0 | PRE | 27.7 | 7.7 | 9.7 | 0.0 |
| 20. LASSO + MALORAN | 1.5 + 1.5 | PRE | 27.7 | 8.3 | 9.0 | 0.0 |
| 21. SENCOR | .5 | PRE | 29.4 | 9.7 | 10.0 | 0.0 |
| 22. AMEX 820 + SENCOR | 1.5 + .375 | PPI | 26.1 | 4.3 | 9.7 | 0.0 |
| 23. AMIBEN | 3.0 | PRE | 27.6 | 7.7 | 10.0 | 0.0 |
| 24. HAND WEED | | | 29.2 | 10.0 | 10.0 | 0.0 |
| 25. NO TREATMENT | | | 15.3 | 0.0 | 7.0 | 0.0 |
| TEST AVERAGES | | | 25.2 | 6.4 | 9.1 | 0.0 |
| L.S.D. (.05) | | | 5.9 | 2.2 | 1.1 | 0.0 |

* WHEN APPLIED: PRE (COMPLETE COVERAGE AFTER PLANTING)
PPI (PREPLANT INCORPORATED)
FP (EARLY POST)

** WEED CONTROL RATING: 10 - COMPLETE CONTROL
0 - NO CONTROL

*** CROP INJURY RATING: 10 - COMPLETE KILL
0 - NO INJURY

Weed Control Research Plot Data
CHEMICAL WEED CONTROL IN SOYBEANS

1. Location: Rossville Cooperator: N. E. Humburg & L. S. Axthelm
2. Soil: Texture sandy loam pH 5.5 Organic Matter 1.0
3. Planting: Date 5/24/74 Rate 58 lbs/A Depth 3/4 - 1"
4. Crop Soybeans Variety Williams
5. Fertilizer Applied: N 15 P₂O₅ 40 K₂O 25
6. Seedbed Condition: (X) Excellent () Fair () Poor () _____
7. Replications 3 Plot Size 4 rows (30") x 30 ft
8. Gallons of Spray per Acre 20 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated 5/24/74
Preemergene 5/24/74 Early Post 6/20/74
10. Precipitation after planting: (in) 4/29 - 0.45 4/30 - 0.90 5/9 - 0.34
5/10 - 0.55 5/11 - 0.04 5/14 - 1.10 5/17 - 1.41 5/24 - 0.28 5/26-0.20
6/4 - T 6/5 - 0.04 6/6 - 1.76 6/7 - 0.76 6/9 - 0.98 6/11-0.52
11. Date of Crop Injury Rating 6/27/74; Weed Control Rating 7/2/74
12. Crop Maturity (Silking, 50% headed, etc.) 4th to 5th trifoliate
13. Date Harvested --
14. Summary: (Weed Control - predominant species, etc.) Area in corn in 1973. Weed stands uniform but light; only crabgrass stands were adequate for percent-control ratings. Predominant weed species were pigweed, ivyleaf morningglory, and climbing milkweed - the latter two escaping herbicidal injury (except on Basagran-treated plots). Control of weeds was high in that herbicide application rates generally were higher than recommended for a 1% OM soil.
15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.) Rated for foliar injury. The experiment being located on sandy soil of low OM content resulted in soybean injury on many plots. Soybeans treated with Sencor, combinations with Sencor and Bladex, and Vernam were damaged. Sencor-induced damage was observed as loss of unifoliate leaves, chlorosis, retarded development, reduced height and loss of stand; there was considerable row-to-row variation in degree of injury or kill due to differences in planting depth. Injury from Vernam as of 6/27/74 was reduction of height (leaflet distortion was more obvious one week earlier); recovery from Vernam injury usually is excellent.
16. Summary: (Crop) Dryland study. Irregular emergence of soybeans resulted in slight variation in plant height on most plots.

Note: Individual-plot photographs taken 7/5/74.

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

PERFORMANCE HERBICIDES
SOYBEANS 1974
KANSAS RIVER VALLEY

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|---------------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. TREFLAN + SENCOR (PRE) | .75 + .5 | PPI | 39.0 | 9.8 | 10.0 | 7.0 |
| 2. VERNAM | 3.0 | PPI | 40.9 | 9.5 | 9.7 | 3.0 |
| 3. TOLBAN + BROMEX | 1.0 + 1.5 | PPI | 44.2 | 9.3 | 9.3 | 0.3 |
| 4. COBEX | .5 | PPI | 45.7 | 9.6 | 8.8 | 1.0 |
| 5. TREFLAN | 1.0 | PPI | 46.6 | 9.9 | 9.9 | 0.0 |
| 6. TREFLAN + BASGN. (EP) | .75 + .75 | PPI | 46.9 | 9.8 | 9.6 | 0.0 |
| 7. TOLBAN | 1.0 | PPI | 47.0 | 9.0 | 9.9 | 0.3 |
| 8. TREFLAN + SENCOR | .75 + .37 | PPI | 47.6 | 9.8 | 9.6 | 2.0 |
| 9. PLANAVIN | 1.0 | PPI | 48.3 | 9.6 | 9.9 | 0.3 |
| 10. LASSO + BLADEX | 1.5 + 1.5 | PRE | 4.0 | 9.6 | 9.8 | 9.7 |
| 11. SENCOR | .5 | PRE | 17.1 | 9.8 | 9.9 | 9.0 |
| 12. SURFLAN + SENCOR | 1.0 + .375 | PRE | 30.5 | 9.8 | 10.0 | 8.0 |
| 13. H 22234 + SENCOR | 1.5 + .375 | PRE | 36.0 | 9.8 | 9.9 | 7.7 |
| 14. LASSO + MODDOW | 1.5 + 1.5 | PRE | 43.1 | 9.7 | 7.3 | 0.3 |
| 15. SOYEX + SENCOR | 3.0 + .375 | PRE | 43.6 | 9.8 | 9.5 | 5.7 |
| 16. LASSO + SENCOR | 1.5 + .375 | PRE | 44.7 | 9.8 | 9.9 | 5.7 |
| 17. LASSO + LOROX | 1.5 + 1.0 | PRE | 46.9 | 9.8 | 9.3 | 0.0 |
| 18. LASSO | 2.5 | PRE | 48.1 | 9.5 | 9.6 | 0.0 |
| 19. LASSO + BASGN. (EP) | 2.5 + .75 | PRE | 49.7 | 9.6 | 9.3 | 0.0 |
| 20. LASSO + MALORAN | 1.5 + 1.5 | PRE | 50.3 | 9.1 | 6.3 | 0.0 |
| 21. SOYEX | 4.5 | PRE | 55.3 | 9.3 | 8.0 | 0.3 |
| 22. AMEX 820 + SENCOR | 1.5 + .375 | PPI | 44.5 | 9.2 | 9.3 | 3.0 |
| 23. AMIBEN | 3.0 | PRE | 47.6 | 8.0 | 9.7 | 0.0 |
| 24. HAND WEED | | | 46.8 | 10.0 | 10.0 | 0.3 |
| 25. NO TREATMENT | | | 31.2 | 0.0 | 0.0 | 0.0 |
| TEST AVERAGES | | | 41.8 | 9.2 | 9.0 | 2.5 |
| L.S.D. (.05) | | | 8.5 | 1.1 | 1.7 | 1.0 |

* WHEN APPLIED:

PRE (COMPLETE COVERAGE IMMEDIATELY AFTER
PPI (PREPLANT INCORPORATED)
EP (EARLY POST) PLANTING)

** WEED CONTROL RATING:

10 - COMPLETE CONTROL
0 - NO CONTROL

*** CROP INJURY RATING:

10 - COMPLETE KILL
0 - NO INJURY

Weed Control Research Plot Data

1. Location: Manhattan, Kansas Cooperator: Oliver G. Russ
2. Soil: Texture Reading SL pH 6.5 Organic Matter 2.5
3. Planting: Date 6/17/74 Rate 1 seed/4" Depth 2.0"
4. Crop Grain Sorghum Variety Pioneer 8674
5. Fertilizer Applied: N 18 P 46 K 0
6. Seedbed Condition: (X) Excellent () Fair () Poor () _____
7. Replications 3 Plot Size 10 ft x 30 ft
8. Gallons of Spray per Acre 20 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated 6/17/74
Preemergent 6/17/74 Early Post 7/10/74
10. Precipitation after planting: 7/4 - .45" 7/25 - .88"
8/7 - .58" 8/25 - .88" 9/7 - .58"
9/9 - .38" 9/10 - .12" 9/13 - .05"
11. Date of Crop Injury Rating 7/8/74; Weed Control Rating 7/22/74
12. Crop Maturity (Silking, 50% headed, etc.) --
13. Date Harvested 11/6/74
14. Summary: (Weed Control - predominant species, etc.)

Plot area was overseeded with alfalfa seed screenings. Predominant weed species present were pigweed, foxtail spp., crabgrass, lambs-quarter and ragweed. Lack of precipitation following planting and treating resulted in poor weed populations and weed control.
15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.)

All early post treatments caused slight leaf burn after application but Igran plus Atrazine caused moderate leaf burn.
16. Summary: (Crop Yield)

Yields were below normal for Kansas due to the lack of precipitation throughout the growing season.

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

PERFORMANCE HERBICIDES
GRAIN SORGHUM 1974
MANHATTAN

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|-------------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. ATRAZINE | 2.0 | PRE | 100.6 | 8.5 | 4.5 | 0.0 |
| 2. RAMROD | 4.0 | PRE | 106.5 | 5.0 | 5.8 | 0.2 |
| 3. BLADEX + PROPAZINE | 1.0 + 2.0 | PRE | 107.5 | 6.3 | 3.7 | 0.0 |
| 4. PROPAZINE | 3.0 | PRE | 109.7 | 6.2 | 2.5 | 0.0 |
| 5. BLADEX + RAMROD | 1.0 + 3.0 | PRE | 111.7 | 6.5 | 6.2 | 0.0 |
| 6. IGRAN | 2.4 | PRE | 112.9 | 5.7 | 5.5 | 0.0 |
| 7. IGRAN + PROPAZINE | 2.0 + .8 | PRE | 113.0 | 7.5 | 5.0 | 0.0 |
| 8. RAMROD/ATRAZINE | 4.14 | PRE | 113.4 | 7.3 | 4.3 | 0.0 |
| 9. IGRAN + ATRAZINE | 2.0 + .8 | PRE | 114.6 | 7.3 | 3.8 | 0.0 |
| 10. MODOWN + RAMROD | 1.5 + 3.0 | PRE | 116.1 | 9.0 | 4.2 | 0.0 |
| 11. NO TREATMENT | | | 50.0 | 0.0 | 0.0 | 0.0 |
| 12. HAND WEED | | | 104.7 | 9.3 | 9.2 | 0.0 |
| 13. H 101 | 2.0 | PRE | 107.0 | 6.2 | 3.7 | 0.0 |
| 14. H 100 | 2.0 | PRE | 113.0 | 5.7 | 2.5 | 0.0 |
| 15. LOROX + RAMROD | 1.0 + 3.0 | PRE | 120.6 | 7.7 | 6.3 | 0.0 |
| 16. H 100 | 2.0 | EP | 102.7 | 7.2 | 2.3 | 0.0 |
| 17. H 101 | 2.0 | EP | 109.1 | 8.7 | 3.5 | 0.0 |
| 18. IGRAN + ATRAZINE | 2.0 + .8 | EP | 113.9 | 9.5 | 8.3 | 0.7 |
| 19. BLADEX + RAMROD | 1.0 + 3.0 | EP | 115.8 | 8.3 | 5.7 | 0.3 |
| 20. ATRAZINE | 2.0 | EP | 116.7 | 7.2 | 2.5 | 0.0 |
| 21. LASSO + ATRAZINE | 2.0 + 1.2 | EP | 122.7 | 8.2 | 5.2 | 0.0 |
| 22. LASSO + PROTECT | 3.0 | PRE | 87.6 | 1.0 | 4.8 | 0.0 |
| 23. LASSO + ATR. (PROT) | 2.0 + 1.2 | PRE | 94.9 | 4.7 | 2.7 | 0.0 |
| 24. LASSO + PROTECT | 3.0 | PPI | 100.6 | 9.0 | 9.7 | 0.0 |
| 25. LASSO + ATR. (PROT) | 2.0 + 1.2 | PPI | 97.1 | 8.3 | 9.5 | 0.0 |
| TEST AVERAGES | | | 108.1 | 6.8 | 4.9 | 0.0 |
| L.S.D. (.05) | | | 11.3 | 2.7 | 2.4 | 0.2 |

* WHEN APPLIED:
PRE (COMPLETE COVERAGE AFTER PLANTING)
PPI (PREPLANT INCORPORATED)
EP (EARLY POST)

** WEED CONTROL RATING:
10 - COMPLETE CONTROL
0 - NO CONTROL

*** CROP INJURY RATING:
1C - COMPLETE KILL
C - NO INJURY

Weed Control Research Plot Data

1. Location: Powhattan, Kansas Cooperator: R. F. Sloan
2. Soil: Texture Silty clay loam pH 6.0 Organic Matter 2.8
3. Planting: Date 6/5/74 Rate 1 seed every 4" Depth 1.5"
4. Crop Grain Sorghum Variety Co-op SG-40
5. Fertilizer Applied: N 0 P 0 K 0
6. Seedbed Condition: (X) Excellent () Fair () Poor () _____
7. Replications 3 Plot Size 10 ft x 30 ft
8. Gallons of Spray per Acre 20 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated 6/5/74
 Preemergent 6/5/74 Early Post 6/21/74
10. Precipitation after planting: 6/6 - .65" 6/7 - .34"
6/9 - 2.85" 6/10 - .10" 6/11 - .05"
6/13 - .03" 7/3 - .99"
11. Date of Crop Injury Rating _____; Weed Control Rating 9/16/74
12. Crop Maturity (Silking, 50% headed, etc.) _____
13. Date Harvested 11/8/74
14. Summary: (Weed Control - predominant species, etc.)
 Predominant weed species present were pigweed, velvetleaf, foxtail spp., and spurge.
15. Summary: (Crop injury - stand reduction, stunting, chlorosis, etc.)
 Three pounds of Lasso applied preemergent caused moderate sorghum injury.
16. Summary: (Crop Yield)
 Yields were below normal for Kansas.

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

HERBICIDE PERFORMANCE
GRAIN SORGHUM 1974
POWHATTAN

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|-------------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. IGRAN | 2.4 | PRE | 70.7 | 3.0 | 5.2 | 0.0 |
| 2. IGRAN + PROPAZINE | 2.0 + .8 | PRE | 76.9 | 7.8 | 7.7 | 0.0 |
| 3. RAMROD | 4.0 | PRE | 80.5 | 8.8 | 9.7 | 0.0 |
| 4. MODOWN + RAMROD | 1.5 + 3.0 | PRE | 81.7 | 7.7 | 9.3 | 0.0 |
| 5. IGRAN + ATRAZINE | 2.0 + .8 | PRE | 82.2 | 4.8 | 7.3 | 0.0 |
| 6. PROPAZINE | 3.0 | PRE | 82.3 | 7.8 | 6.8 | 0.0 |
| 7. ATRAZINE | 2.0 | PRE | 82.6 | 9.0 | 8.2 | 0.0 |
| 8. RAMROD/ATRAZINE | 4.14 | PRE | 84.7 | 8.7 | 9.3 | 0.0 |
| 9. BLADEX + PROPAZINE | 1.0 + 2.0 | PRE | 86.1 | 8.7 | 7.8 | 0.0 |
| 10. BLADEX + RAMROD | 1.0 + 3.0 | PRE | 87.4 | 7.8 | 9.0 | 0.0 |
| 11. NO TREATMENT | | | 59.6 | 0.0 | 6.2 | 0.0 |
| 12. HAND WEED | | | 82.2 | 9.8 | 10.0 | 0.0 |
| 13. LOROX + RAMROD | 1.0 + 3.0 | PRE | 80.1 | 8.2 | 9.3 | 0.2 |
| 14. LASSO | 3.0 | PRE | 82.5 | 9.3 | 9.7 | 1.2 |
| 15. H 100 | 2.0 | PRE | 85.6 | 9.3 | 8.5 | 0.0 |
| 16. IGRAN + ATRAZINE | 2.0 + .8 | FP | 78.2 | 6.2 | 5.3 | 0.0 |
| 17. ATRAZINE | 2.0 | EP | 81.6 | 8.3 | 7.8 | 0.0 |
| 18. H 100 | 2.0 | EP | 83.5 | 9.3 | 7.5 | 0.0 |
| 19. BLADEX + RAMROD | 1.0 + 3.0 | EP | 83.5 | 9.7 | 9.5 | 0.0 |
| 20. H 101 | 2.0 | FP | 86.1 | 9.2 | 8.2 | 0.2 |
| 21. LASSO + ATRAZINE | 2.0 + 1.2 | EP | 86.3 | 9.8 | 9.0 | 0.0 |
| 22. LASSO + ATR. (PROT) | 2.0 + 1.2 | PRE | 83.9 | 9.0 | 9.7 | 0.0 |
| 23. LASSO + PROTECT | 3.0 | PRE | 86.8 | 8.8 | 9.8 | 0.0 |
| 24. LASSO + PROTECT | 3.0 | PPI | 90.5 | 7.7 | 9.5 | 0.0 |
| 25. LASSO + ATR. (PROT) | 2.0 + 1.2 | PPI | 74.2 | 9.5 | 9.8 | 0.8 |
| TEST AVERAGES | | | 81.6 | 7.9 | 8.4 | 0.1 |
| L.S.D. (.05) | | | NS | 2.6 | 2.4 | 0.3 |

* WHEN APPLIED: PRE (COMPLETE COVERAGE AFTER PLANTING)
PPI (PREPLANT INCORPORATED)
EP (EARLY PCST)

** WEED CONTROL RATING: 10 - COMPLETE CONTROL
0 - NO CONTROL

*** CROP INJURY RATING: 10 - COMPLETE KILL
C - NO INJURY

Weed Control Research Plot Data

1. Location: Ottawa, Kansas Cooperator: Charles Knight
2. Soil: Texture Sic1 pH -- Organic Matter --
3. Planting: Date 6/21/74 Rate 4.5#/A Depth 1.0
4. Crop Grain Sorghum Variety DeKalb C-42Y
5. Fertilizer Applied: N 100 P -- K --
6. Seedbed Condition: (X) Excellent () Fair () Poor () _____
7. Replications 3 Plot Size 10 ft x 50 ft
8. Gallons of Spray per Acre 20 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated 6/21/74
 Preemergent 6/24/74 Early Post 7/16/74
10. Precipitation after planting: 7/3 - .28" 8/6 - 1.40"
8/8 - .23" 8/14 - .09" 8/15 - .20"
11. Date of Crop Injury Rating 8/8/74 ; Weed Control Rating 11/21/74
12. Crop Maturity (Silking, 50% headed, etc.) _____
13. Date Harvested 12/9/74
14. Summary: (Weed Control - predominant species, etc.)
 All plots were overseeded with alfalfa screenings at planting time, but due to dry weather, weeds did not appear until late August.
15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.)
 There was a 20-30 percent stand reduction on all plots in which the seeds were treated with Protect.
16. Summary: (Crop Yield)
 Crop yields were low due to dry weather, but weeds did not provide much competition until late in the season.

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

HERBICIDE PERFORMANCE
GRAIN SORGHUM 1974
OTTAWA

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|-------------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. IGRAN + ATRAZINE | 2.0 + .8 | PRE | 33.2 | 5.0 | 7.0 | 0.0 |
| 2. RAMROD/ATRAZINE | 4.14 | PRE | 44.2 | 5.7 | 9.0 | 0.0 |
| 3. IGRAN + PROPAZINE | 2.0 + .8 | PRE | 45.0 | 9.0 | 9.0 | 0.0 |
| 4. RAMROD | 4.0 | PRE | 48.0 | 3.0 | 9.0 | 0.0 |
| 5. IGRAN | 2.4 | PRF | 52.0 | 7.3 | 7.0 | 0.0 |
| 6. PROPAZINE | 3.0 | PRE | 52.5 | 9.7 | 8.0 | 0.0 |
| 7. BLADEX + RAMROD | 1.0 + 3.0 | PRE | 53.9 | 4.3 | 9.0 | 0.0 |
| 8. BLADEX + PROPAZINE | 1.0 + 2.0 | PRE | 54.2 | 9.3 | 9.0 | 0.0 |
| 9. ATRAZINE | 2.0 | PRE | 55.5 | 8.7 | 9.3 | 0.0 |
| 10. MODOWN + RAMROD | 1.5 + 3.0 | PRE | 58.7 | 5.0 | 7.0 | 0.0 |
| 11. HAND WEED | | | 43.0 | 8.0 | 9.0 | 0.0 |
| 12. NO TREATMENT | | | 48.4 | 1.0 | 3.0 | 0.0 |
| 13. H 100 | 2.0 | PRE | 46.0 | 9.0 | 6.3 | 0.0 |
| 14. H 101 | 2.0 | PRF | 49.1 | 9.3 | 9.3 | 0.0 |
| 15. LOROX + RAMROD | 1.0 + 3.0 | PRE | 49.4 | 4.0 | 5.3 | 0.0 |
| 16. ATRAZINE | 2.0 | EP | 36.5 | 8.0 | 9.7 | 0.0 |
| 17. IGRAN + ATRAZINE | 2.0 + .8 | EP | 39.6 | 8.0 | 9.3 | 0.0 |
| 18. BLADEX + RAMROD | 1.0 + 3.0 | FP | 43.6 | 7.0 | 9.0 | 0.0 |
| 19. LASSO + ATRAZINE | 2.0 + 1.2 | EP | 46.5 | 8.7 | 9.3 | 0.0 |
| 20. H 100 | 2.0 | FP | 48.7 | 8.7 | 9.3 | 0.0 |
| 21. H 101 | 2.0 | FP | 51.5 | 9.0 | 9.7 | 0.0 |
| 22. LASSO + PROTECT | 3.0 | PRE | 32.7 | 2.3 | 7.0 | 0.0 |
| 23. LASSO + ATR. (PROT) | 2.0 + 1.2 | PRE | 39.3 | 7.3 | 8.0 | 0.0 |
| 24. LASSO + PROTECT | 3.0 | PPI | 38.6 | 1.7 | 3.0 | 0.0 |
| 25. LASSO + ATR. (PROT) | 2.0 + 1.2 | PPI | 37.1 | 4.7 | 5.7 | 0.0 |
| TEST AVERAGES | | | 45.9 | 6.5 | 7.9 | 0.0 |
| L.S.D. (.05) | | | NS | 2.8 | 2.4 | 0.0 |

* WHEN APPLIED: PRE (COMPLETE COVERAGE AFTER PLANTING)
PPI (PREPLANT INCORPORATED)
EP (EARLY POST)

** WEED CONTROL RATING: 10 - COMPLETE CONTROL
0 - NO CONTROL

*** CROP INJURY RATING: 10 - COMPLETE KILL
0 - NO INJURY

Weed Control Research Plot Data

No-Till

1. Location: Belleville Cooperator: R. J. Raney
2. Soil: Texture Silt loam pH 7.1 Organic Matter 1.8
3. Planting: Date 6-3-74 Rate 5" spacing Depth 1"
4. Crop Grain Sorghum Variety Pioneer 8311
5. Fertilizer Applied: N 66 P 20 K 6
6. Seedbed Condition: (X) Excellent () Fair () Poor () _____
7. Replications 3 Plot Size 10' x 30'
8. Gallons of Spray per Acre 20 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated ---
Preemergent 6-3-74 Early Post 6-20-74
10. Precipitation after planting: June - 2.27 July - 0.23
Aug. - 3.40 Sept. - 0.37 Oct. - 1.76
11. Date of Crop Injury Rating ---; Weed Control Rating 9-18-74
12. Crop Maturity (Silking, 50% headed, etc.) Frost 9-2; 10-15
13. Date Harvested _____
14. Summary: (Weed Control - predominant species, etc.)
Pigweed, kochia, foxtail, crabgrass
15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.)
Poor stand on plots 120-121-220-221-320-321. Replanted but stands were poor. Evidently leaving off the PROTECT resulted in Lasso injury.
16. Summary: (Crop Yield)

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

NO-TILL
GRAIN SORGHUM 1974
BELLEVILLE

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|-----------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. MCDOWN + RAMROD | 1.5 + 3.0 | PRE | 26.8 | 7.3 | 6.0 | 0.0 |
| 2. BLADEX + RAMROD | 1.0 + 3.0 | PRE | 34.7 | 9.0 | 8.0 | 0.0 |
| 3. RAMROD | 4.0 | PRE | 35.0 | 8.7 | 6.7 | 0.0 |
| 4. PROPAZINE | 3.0 | PRE | 43.1 | 9.0 | 5.3 | 0.0 |
| 5. BLADEX + PROPAZINE | 1.0 + 2.0 | PRE | 43.4 | 8.7 | 8.7 | 0.0 |
| 6. ATRAZINE | 2.0 | PRE | 45.3 | 8.7 | 6.3 | 0.0 |
| 7. RAMROD/ATRAZINE | 4.14 | PRE | 48.5 | 8.7 | 6.3 | 0.0 |
| 8. IGRAN + PROPAZINE | 2.0 + .8 | PRE | 51.3 | 9.3 | 8.3 | 0.0 |
| 9. IGRAN | 2.4 | PRE | 52.4 | 9.7 | 8.3 | 0.0 |
| 10. IGRAN + ATRAZINE | 2.0 + .8 | PRE | 57.3 | 8.7 | 8.7 | 0.0 |
| 11. NO TREATMENT | | | 25.7 | 5.7 | 7.0 | 0.0 |
| 12. HAND WEED | | | 37.3 | 7.3 | 8.7 | 0.0 |
| 13. H 100 | 2.0 | PRE | 46.0 | 7.7 | 6.0 | 0.0 |
| 14. LOROX + RAMROD | 1.0 + 3.0 | PRE | 61.4 | 9.3 | 8.7 | 0.0 |
| 15. H 100 | 2.0 | EP | 20.2 | 6.3 | 5.3 | 0.0 |
| 16. IGRAN + ATRAZINE | 2.0 + .8 | EP | 21.4 | 7.3 | 7.0 | 0.0 |
| 17. BLADEX + RAMROD | 1.0 + 3.0 | EP | 44.7 | 6.7 | 5.7 | 0.0 |
| 18. ATRAZINE | 2.0 | EP | 44.9 | 9.0 | 5.7 | 0.0 |
| 19. LASSO + ATRAZINE | 2.0 + 1.2 | EP | 48.6 | 9.0 | 6.0 | 0.0 |
| 20. LASSO | 3.0 | PRE | 7.2 | 5.0 | 4.3 | 0.0 |
| 21. LASSO + ATRAZINE | 2.0 + 1.2 | PRE | 14.8 | 8.0 | 4.3 | 0.0 |
| TEST AVERAGES | | | 38.6 | 8.0 | 6.7 | 0.0 |
| L.S.D. (.05) | | | 19.1 | NS | 3.1 | 0.0 |

* WHEN APPLIED:

PRE (COMPLETE COVERAGE AFTER PLANTING)
EP (EARLY POST)

** WEED CONTROL RATING:

1C - COMPLETE CONTROL
0 - NO CONTROL

*** CROP INJURY RATING:

1C - COMPLETE KILL
0 - NO INJURY

Weed Control Research Plot Data

Conventional Tillage

1. Location: Belleville, Kansas Cooperator: R. J. Raney
2. Soil: Texture Silt loam pH 7.1 Organic Matter 1.8
3. Planting: Date 5-30-74 Rate 5" spacing Depth 1"
4. Crop Grain Sorghum Variety DeKalb F-62
5. Fertilizer Applied: N 66 P 20 K 6
6. Seedbed Condition: () Excellent (X) Fair () Poor () _____
7. Replications 3 Plot Size 10' x 30'
8. Gallons of Spray per Acre 20 Carrier: (X) Water () Fert.
Preemergent 5-30 Early Post 6-20
10. Precipitation after planting: June - 2.27 July - 0.23
Aug. - 3.40 Sept. - 0.37 Oct. - 1.76
11. Date of Crop Injury Rating --; Weed Control Rating 9-18-74
12. Crop Maturity (Silking, 50% headed, etc.) Frost 9-2 and 10-15
13. Date Harvested 11-5-74
14. Summary: (Weed Control - predominant species, etc.)
Pigweed, kochia, foxtail, crabgrass
15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.)
16. Summary: (Crop Yield)

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

HERBICIDE PERFORMANCE
GRAIN SORGHUM 1974
BELLEVILLE

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|-------------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. IGRAN + PROPAZINE | 2.0 + .8 | PRE | 43.9 | 8.0 | 8.0 | 0.0 |
| 2. MODOWN + RAMROD | 1.5 + 3.0 | PRE | 44.7 | 5.0 | 8.3 | 0.0 |
| 3. IGRAN + ATRAZINE | 2.0 + .8 | PRE | 44.8 | 8.3 | 8.7 | 0.0 |
| 4. IGRAN | 2.4 | PRE | 45.4 | 4.0 | 7.0 | 0.0 |
| 5. BLADEX + RAMROD | 1.0 + 3.0 | PRE | 46.0 | 7.3 | 9.3 | 0.0 |
| 6. RAMROD | 4.0 | PRE | 48.7 | 5.0 | 8.7 | 0.0 |
| 7. ATRAZINE | 2.0 | PRE | 49.7 | 10.0 | 8.7 | 0.0 |
| 8. RAMROD/ATRAZINE | 4.14 | PRE | 50.6 | 9.7 | 9.7 | 0.0 |
| 9. BLADEX + PROPAZINE | 1.0 + 2.0 | PRE | 51.9 | 9.7 | 9.3 | 0.0 |
| 10. PROPAZINE | 3.0 | PRE | 59.1 | 9.3 | 6.7 | 0.0 |
| 11. NO TREATMENT | | | 13.2 | 0.0 | 3.7 | 0.0 |
| 12. HAND WEED | | | 56.2 | 10.0 | 10.0 | 0.0 |
| 13. H 100 | 2.0 | PRE | 49.3 | 10.0 | 9.7 | 0.0 |
| 14. LOROX + RAMROD | 1.0 + 3.0 | PRE | 52.7 | 6.7 | 9.0 | 0.0 |
| 15. H 100 | 2.0 | EP | 40.3 | 7.3 | 3.7 | 0.0 |
| 16. LASSO + ATRAZINE | 2.0 + 1.2 | EP | 41.3 | 7.0 | 4.7 | 0.0 |
| 17. ATRAZINE | 2.0 | EP | 44.1 | 6.0 | 5.7 | 0.0 |
| 18. BLADEX + RAMROD | 1.0 + 3.0 | EP | 48.8 | 8.7 | 6.0 | 0.0 |
| 19. IGRAN + ATRAZINE | 2.0 + .8 | EP | 48.9 | 6.7 | 7.7 | 0.0 |
| 20. LASSO + ATR. (PROT) | 2.0 + 1.2 | PRE | 41.0 | 9.7 | 10.0 | 0.0 |
| 21. LASSO + PROTECT | 3.0 | PRE | 44.4 | 9.3 | 8.7 | 0.0 |
| 22. LASSO + PROTECT | 3.0 | PPI | 33.6 | 8.0 | 10.0 | 0.0 |
| 23. LASSO + ATR. (PROT) | 2.0 + 1.2 | PPI | 35.4 | 8.7 | 9.3 | 0.0 |
| TEST AVERAGES | | | 45.0 | 7.6 | 7.9 | 0.0 |
| L.S.D. (.05) | | | 14.9 | 1.7 | 2.3 | 0.0 |

* WHEN APPLIED:

PRE (COMPLETE COVERAGE AFTER PLANTING)
PPI (PREPLANT INCORPORATED)
EP (EARLY POST)

** WEED CONTROL RATING:

10 - COMPLETE CONTROL
0 - NO CONTROL

*** CROP INJURY RATING:

10 - COMPLETE KILL
0 - NO INJURY

Weed Control Research Plot Data

1. Location: Hutchinson, Kansas Cooperator: W. A. Moore
2. Soil: Texture Clark-Ost Cl pH 6.2 Organic Matter 2.1
3. Planting: Date 6/14/74 Rate 3.0 lb/A Depth 1.5"
4. Crop Grain Sorghum Variety Pioneer 8442
5. Fertilizer Applied: N 0 P 0 K 0
6. Seedbed Condition: (X) Excellent () Fair () Poor () _____
7. Replications 3 Plot Size 10 ft x 30 ft
8. Gallons of Spray per Acre 20 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated --
 Preemergent 6/14/74 Early Post 7/9/74
10. Precipitation after planting: 6/13 - .31" 7/25 - .17"
7/30 - .04" _____

11. Date of Crop Injury Rating --; Weed Control Rating --
12. Crop Maturity (Silking, 50% headed, etc.) _____
13. Date Harvested 11/26/74
14. Summary: (Weed Control - predominant species, etc.)
 Lack of precipitation following planting and treating resulted in poor weed populations. No control ratings were recorded.
15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.)
16. Summary: (Crop Yield)

Yields were below normal for Kansas.

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

HERBICIDE PERFORMANCE
GRAIN SORGHUM 1974
HUTCHINSON

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|-------------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. IGRAN + ATRAZINE | 2.0 + .8 | PRE | 63.1 | 0.0 | 0.0 | 0.0 |
| 2. IGRAN + PROPAZINE | 2.0 + .8 | PRE | 66.5 | 0.0 | 0.0 | 0.0 |
| 3. RAMROD | 4.0 | PRE | 66.5 | 0.0 | 0.0 | 0.0 |
| 4. ATRAZINE | 2.0 | PRE | 67.2 | 0.0 | 0.0 | 0.0 |
| 5. RAMROD/ATRAZINE | 4.14 | PRE | 68.1 | 0.0 | 0.0 | 0.0 |
| 6. MODOWN + RAMROD | 1.5 + 3.0 | PRE | 70.5 | 0.0 | 0.0 | 0.0 |
| 7. IGRAN | 2.4 | PRE | 70.9 | 0.0 | 0.0 | 0.0 |
| 8. BLADEX + RAMROD | 1.0 + 3.0 | PRE | 72.6 | 0.0 | 0.0 | 0.0 |
| 9. PROPAZINE | 3.0 | PRE | 73.3 | 0.0 | 0.0 | 0.0 |
| 10. BLADEX + PROPAZINE | 1.0 + 2.0 | PRE | 74.0 | 0.0 | 0.0 | 0.0 |
| 11. NO TREATMENT | | | 70.9 | 0.0 | 0.0 | 0.0 |
| 12. HAND WEED | | | 75.5 | 0.0 | 0.0 | 0.0 |
| 13. H 100 | 2.0 | PRE | 69.8 | 0.0 | 0.0 | 0.0 |
| 14. H 101 | 2.0 | PRE | 70.5 | 0.0 | 0.0 | 0.0 |
| 15. LOROX + RAMROD | 1.0 + 3.0 | PRE | 71.0 | 0.0 | 0.0 | 0.0 |
| 16. IGRAN + ATRAZINE | 2.0 + .8 | EP | 68.6 | 0.0 | 0.0 | 0.0 |
| 17. H 101 | 2.0 | EP | 70.9 | 0.0 | 0.0 | 0.0 |
| 18. LASSO + ATRAZINE | 2.0 + 1.2 | EP | 72.4 | 0.0 | 0.0 | 0.0 |
| 19. BLADEX + RAMROD | 1.0 + 3.0 | EP | 73.6 | 0.0 | 0.0 | 0.0 |
| 20. ATRAZINE | 2.0 | EP | 74.7 | 0.0 | 0.0 | 0.0 |
| 21. H 100 | 2.0 | EP | 77.4 | 0.0 | 0.0 | 0.0 |
| 22. LASSO + PROTECT | 3.0 | PRE | 60.7 | 0.0 | 0.0 | 0.0 |
| 23. LASSO + ATR. (PROT) | 2.0 + 1.2 | PRE | 73.8 | 0.0 | 0.0 | 0.0 |
| 24. LASSO + PROTECT | 3.0 | PPI | 69.8 | 0.0 | 0.0 | 0.0 |
| 25. LASSO + ATR. (PROT) | 2.0 + 1.2 | PPI | 64.5 | 0.0 | 0.0 | 0.0 |
| TEST AVERAGES | | | 70.3 | 0.0 | 0.0 | 0.0 |
| L.S.D. (.05) | | | NS | 0.0 | 0.0 | 0.0 |

* WHEN APPLIED:

PRE (COMPLETE COVERAGE AFTER PLANTING)
PPI (PREPLANT INCORPORATED)
EP (EARLY POST)

** WEED CONTROL RATING:

10 - COMPLETE CONTROL
0 - NO CONTROL

*** CROP INJURY RATING:

10 - COMPLETE KILL
0 - NO INJURY

Weed Control Research Plot Data

1. Location: Southwest Kansas Expt. Field Cooperator: D. Bonne
(Surface)
2. Soil: Texture Harney Silt Loam pH 6.8 (6") Org. Mat. 2%
3. Planting: Date 17 June Rate 30" - 12" Depth 2"
4. Crop Grain Sorghum Variety Asgrow Dorado M
5. Fertilizer Applied: N 45# P -- K --
Dry sur-
6. Seedbed Condition: () Excellent (X) Fair () Poor () face 2"
7. Replications 3 Plot Size 10' x 30" x 2 rows
8. Gallons of Spray per Acre 20 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated --
Preemergent 17 June Early Post 15 July
10. Precipitation after planting: June 1 - 0.05 June 3 - 0.15
June 4 - 0.56 June 6 - 1.48 June 8 - 0.92
July 23 - 0.62 July 24 - 0.26 July 25 - 0.60
11. Date of Crop Injury Rating _____; Weed Control Rating _____
12. Crop Maturity (Silking, 50% headed, etc.) _____
13. Date Harvested November 16, 18, 19, 1974
14. Summary: (Weed Control - predominant species, etc.)

Very few grasses in this year's test; accurate evaluation for grass control is thereby nullified. Amaranthus sp. were the main problem weeds with some Russian thistle. High temperature and low spring moisture contributed to poor stands making herbicide stand reduction evaluation a guess at best. Preemergent herbicides were not activated soon enough to give good weed control.

15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.)
Some root damage noted with dacamine; no other injury noted. Stand problems due to low surface moisture at planting.
16. Summary: (Crop Yield)
Some frost injury.

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

HERBICIDE PERFORMANCE
GRAIN SORGHUM 1974
SOUTHWEST KANSAS

| NO. TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|---------------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | BROADLEAF | GRASSY | |
| 1. RAMROD + 2,4-D (EP) | 4.0 + 0.5 | PRE | 46.1 | 7.7 | 10.0 | 0.0 |
| 2. IGRAN + ATRAZINE | 1.6 + 0.4 | PRE | 50.3 | 8.0 | 10.0 | 0.0 |
| 3. PROPAZINE | 2.0 | PRE | 53.9 | 7.0 | 10.0 | 0.0 |
| 4. IGRAN + 13529 | 2.0 + 1.0 | PRE | 55.5 | 7.0 | 6.7 | 0.0 |
| 5. RAMROD + ATRAZINE | 3.45 | PRE | 57.0 | 6.7 | 10.0 | 0.0 |
| 6. IGRAN + PROPAZINE | 1.6 + 0.4 | PRE | 57.5 | 7.0 | 9.3 | 0.0 |
| 7. IGRAN | 2.0 | PRE | 61.2 | 8.7 | 10.0 | 0.0 |
| 8. RAMROD | 4.0 | PRE | 66.3 | 5.7 | 10.0 | 0.0 |
| 9. BROMINAL + 2,4-D | 0.5 + 0.5 | EP | 44.1 | 8.0 | 10.0 | 0.0 |
| 10. DACAMINE | 0.33 | EP | 50.8 | 7.0 | 10.0 | 0.0 |
| 11. BANVEL | 0.25 | EP | 51.3 | 5.7 | 9.7 | 0.0 |
| 12. ATRAZINE | 2.0 | EP | 54.4 | 8.3 | 10.0 | 0.0 |
| 13. LASSO + FOX 4 | 2.0 + 1.0 | EP | 56.5 | 9.7 | 10.0 | 0.0 |
| 14. ATRAZINE + (AGRI OIL) | 1.5 + 1QT | EP | 73.1 | 7.3 | 10.0 | 0.0 |
| 15. LASSO + BLADEX | 2.0 + 1.0 | EP | 74.6 | 5.7 | 10.0 | 0.0 |
| 16. LASSO + ATRAZINE | 2.0 + 1.0 | EP | 85.5 | 6.7 | 10.0 | 0.0 |
| 17. HAND WEED | | | 66.9 | 10.0 | 10.0 | 0.0 |
| 18. NO TREATMENT | | | 64.3 | 4.0 | 10.0 | 0.0 |
| TEST AVERAGES | | | 59.4 | 7.2 | 9.8 | 0.0 |
| L.S.D. (.05) | | | NS | 2.3 | NS | 0.0 |

* WHEN APPLIED: PRE (COMPLETE COVERAGE AFTER PLANTING)
EP (EARLY POST)

** WEED CONTROL RATING: 10 - COMPLETE CONTROL
0 - NO CONTROL

*** CROP INJURY RATING: 10 - COMPLETE KILL
0 - NO INJURY

Weed Control Research Plot Data

1. Location: St. John, Kansas Cooperator: M. Lundquist and G. TenEyck
2. Soil: Texture Pratt - Carwile pH 6.3 Organic Matter 0.7
3. Planting: Date 5/31/74 Rate 80,000/A Depth 1.5
4. Crop Grain Sorghum Variety DeKalb E59
5. Fertilizer Applied: N 80 P 46 K 0
6. Seedbed Condition: (X) Excellent () Fair () Poor () _____
7. Replications 3 Plot Size 10 ft. x 30 ft.
8. Gallons of Spray per Acre 20 Carrier: (X) Water () Fert.
9. Date Herbicide Applied: Preplant Incorporated _____
 Preemergent 5/31/74 Early Post _____
10. Precipitation after planting: 6/74 - 1.52" 7/74 - .87"
 8/74 - 5.14" 9/74 - 1.45"
11. Date of Crop Injury Rating _____; Weed Control Rating 10/31/74
12. Crop Maturity (Silking, 50% headed, etc.) _____
13. Date Harvested 11/1/74
14. Summary: (Weed Control - predominant species, etc.)
 Predominant weed species present were crabgrass and pigweed.
15. Summary: (Crop Injury - stand reduction, stunting, chlorosis, etc.)
 Bladex treatments caused early injury resulting in stand reduction and
 a decrease in yield.
16. Summary: (Crop Yield)
 Yields were normal for the area of Kansas.

KANSAS STATE UNIVERSITY
AGRONOMY DEPARTMENT

HERBICIDE PERFORMANCE
GRAIN SORGHUM 1974
ST JOHN

| NO. | TREATMENT | LBS. A.I. PER A. | WHEN* APPLIED | BU. PER A. | WEED CONTROL RATING** | | CROP*** INJURY |
|---------------|-----------------------|------------------------|------------------|---------------|-----------------------|--------|-------------------|
| | | | | | BROADLEAF | GRASSY | |
| 1. | IGRAN + BLADEX W/O | 1.6 + .4 | PRE | 87.7 | 4.0 | 3.0 | 0.0 |
| 2. | IGRAN W/O | 2.0 | PRE | 101.0 | 7.7 | 4.5 | 0.0 |
| 3. | IGRAN + BLADEX W/1 | 1.6 + .4 | PRE | 101.4 | 5.7 | 7.7 | 0.0 |
| 4. | IGRAN + PROPAZINE W/O | 2.0 + .4 | PRE | 101.7 | 7.0 | 3.5 | 0.0 |
| 5. | IGRAN + ATRAZINE W/O | 2.0 + .4 | PRE | 104.3 | 8.0 | 6.5 | 0.0 |
| 6. | IGRAN W/1 | 2.0 | PRE | 106.8 | 8.7 | 8.7 | 0.0 |
| 7. | IGRAN + BLADEX W/O | 2.0 + .4 | PRE | 108.4 | 5.5 | 5.0 | 0.0 |
| 8. | IGRAN + BLADEX W/2 | 2.0 + .4 | PRE | 108.6 | 8.2 | 9.2 | 0.0 |
| 9. | IGRAN + ATRAZINE W/1 | 2.0 + .4 | PRE | 109.3 | 8.7 | 9.0 | 0.0 |
| 10. | IGRAN + 13529 W/O | 2.0 + 1.0 | PRE | 110.9 | 7.7 | 6.0 | 0.0 |
| 11. | IGRAN + 13529 W/2 | 2.0 + 1.0 | PRE | 112.2 | 10.0 | 9.7 | 0.0 |
| 12. | IGRAN W/2 | 2.0 | PRE | 112.7 | 9.2 | 9.0 | 0.0 |
| 13. | IGRAN + BLADEX W/2 | 1.6 + .4 | PRE | 114.1 | 8.2 | 8.2 | 0.0 |
| 14. | IGRAN + BLADEX W/1 | 2.0 + .4 | PRE | 114.6 | 9.0 | 9.7 | 0.0 |
| 15. | IGRAN + PROPAZINE W/2 | 2.0 + .4 | PRE | 116.5 | 9.2 | 8.2 | 0.0 |
| 16. | IGRAN + 13529 W/1 | 2.0 + 1.0 | PRE | 116.5 | 9.5 | 8.5 | 0.0 |
| 17. | IGRAN + PROPAZINE W/1 | 2.0 + .4 | PRE | 118.5 | 9.5 | 9.5 | 0.0 |
| 18. | IGRAN + ATRAZINE W/2 | 2.0 + .4 | PRE | 120.7 | 9.8 | 9.7 | 0.0 |
| 19. | HAND WEED W/O | | | 110.1 | 9.0 | 8.5 | 0.0 |
| 20. | HAND WEED W/1 | | | 110.6 | 9.5 | 8.7 | 0.0 |
| 21. | HAND WEED W/2 | | | 108.8 | 10.0 | 9.7 | 0.0 |
| 22. | NO TREATMENT W/O | | | 39.0 | 2.3 | 1.5 | 0.0 |
| 23. | NO TREATMENT W/1 | | | 40.1 | 4.3 | 2.0 | 0.0 |
| 24. | NO TREATMENT W/2 | | | 67.3 | 4.0 | 2.0 | 0.0 |
| TEST AVERAGES | | | | 101.7 | 7.7 | 7.0 | 0.0 |
| L.S.D. (.05) | | | | 12.1 | 1.7 | 1.1 | 0.0 |

* WHEN APPLIED: PRE (COMPLETE COVERAGE AFTER PLANTING)

** WEED CONTROL RATING: 10 - COMPLETE CONTROL
0 - NO CONTROL

*** CROP INJURY RATING: 10 - COMPLETE KILL
0 - NO INJURY