ONTARIO FORAGE CROP INVESTIGATIONS

1981 REPORT ON FIELD TRIALS OF VARIETIES AND MIXTURES

- Kapuskasing
- Thunder Bay
- Ridgetown
- Ottawa
- Kemptville
- New Liskeard
- Guelph
ONTARIO

FORAGE CROP INVESTIGATIONS

1981 REPORT ON FIELD TRIALS
OF VARIETIES AND MIXTURES

Kapuskasing
Thunder Bay
Ridgetown

Kemptville
New Liskeard
Guelph

Ottawa
1981 REPORT ON FORAGE CROPS TRIALS

ONTARIO FORAGE CROP COMMITTEE

Conducted cooperatively by the various Ontario Agricultural Experiment Stations of Agriculture Canada, University of Guelph, and Technical Colleges of Agriculture in Ontario

Not for Publication: This is a progress report of cooperative investigations containing data, the interpretation of which may be modified with additional experimentation. Therefore, publication of any data or statements herein should not be made without prior written approval of the organization and personnel concerned.
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1981 Report of Forage Crops Trials
Ontario Forage Crop Committee

compiled by

M. A. Faris
Variety Sub-Committee Chairman
Ontario Forage Crop Committee
Research Scientist, Ottawa R. S., Forage Bldg. # 12
Ottawa, Ontario K1A 0C6

INTRODUCTION

This is the 1981 Ontario Forage Crop Investigations. Some changes were made to include information on experimental design, method of seeding, management practices used, such as: herbicides, fertilizer, cutting dates, etc. Names and addresses of each crop coordinator are provided to facilitate further inquiries if such a need arises.
Ontario Forage Crop Committee

Variety Sub-Committee

Members

Dr. M. A. Faris
   Chairman, Variety Sub-Committee
   Alfalfa Coordinator
Dr. D. T. Tomes
   Chairman, O.F.C.C.
   Birds'-foot Trefoil Coordinator
Mr. H. C. Wright
   Secretary, O.F.C.C.
Dr. B. R. Christie
   Timothy Coordinator
Mr. J. Madill
   Red and White Clover Coordinator
Dr. F. S. Warren
   Bromegrass and Reed Canarygrass Coordinator
Mr. R. W. Suitor
   Orchardgrass Coordinator

Organization

Ottawa Research Station

OAC
University of Guelph

OAC
University of Guelph
Kemptville College of Agricultural Technology
Ottawa Research Station

Testing Locations

Kapuskasing
Thunder Bay
Ridgetown
Kemptville
New Liskeard
Guelph
Ottawa

Name of Cooperators

Dr. J. Proulx; Mr. L. Guillemette
Mr. J. Wilson
Mr. A. McLaren
Mr. J. Madill
Mr. A. V. Skepasts
Dr. B. R. Christie; Dr. D. T. Tomes
Dr. M. A. Faris; Dr. F. S. Warren;
Mr. R. W. Suitor

This report is obtainable from:

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Secretary, O.F.C.C.
Soils and Crops Branch
O.M.A.F.
c/o Crop Science Department
Ontario Agricultural College
Guelph, Ontario
N1G 2W1
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## EARLY ALFALFA. ENTRIES ELIGIBLE FOR CONSIDERATION IN 1981

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**Note:** The table above provides yields for various alfalfa entries under different conditions and locations, with a focus on early alfalfa entries eligible for consideration in 1981. The data includes yields from Ridgetown, Guelph, and Kemptville, with additional information from Thunder Bay. The check column indicates the entries considered for each location, and the average column presents the overall yield across all locations.
### TABLE 1 Alfalfa yield trial (Early).
Ridgetown, 1980-81 yield data. Seeded 1979

**Design:** Randomized complete block  
**Herbicide:** 2, 4-DB  
**Seedings:**  
- May 7, 1979  
- May 1979 prior to seeding  
- Fertilizer: 500 lbs/acre of 6-24-24  
- Soil Type: Clay Loam  
- Replications: 4  
- Cuttings:  
  - 1979: July 18, Aug. 31  
  - 1980: June 23, July 25, Sept. 8  
  - 1981: June 11, July 14, Sept. 15  

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<th>Cut 2 (Kg/ha)</th>
<th>Cut 3 (Kg/ha)</th>
<th>Total (Kg/ha)</th>
<th>Mean 1980</th>
<th>Mean 2-year</th>
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**LSD 5%:** 696  
**Mean:** 5533  
**C.V. %:** 8.94
TABLE 2 Alfalfa yield trial (Early). Experiment 1069
Ridgetown 1981 yield data. Seeded 1980

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| LSD 5%       | 561  | 747  | 480  | 1018  |
| Mean         | 5487 | 6317 | 3523 | 15328 |
| C.V. %       | 7.31 | 8.40 | 9.69 | 4.72  |

Location: Ridgetown
Plot Size: 1.6 m X 5.0 m
Design: Randomized complete block
Soil Type: Clay Loam
Replications: 4
Seeding Method: Broadcast
Seeding Date: May 6, 1980
Herbicide: 2, 4-DB
Fertilizer:
### TABLE 3 Alfalfa yield trial (Early). Experiment 2801
Guelph 1981 yield data. Seeded 1979

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| LSD 5% :            | 1046   | 293    | 348    | 1186      |            |            |
| Mean :              | 5488   | 3258   | 3358   | 12103     |            |            |
| C.V. % :            | 13.55  | 6.39   | 7.36   | 6.97      |            |            |

### Location: Elora Research Station
Plot Size: 1.5 m by 6.0 m

### Design: Randomized complete block
Soil Type: Connestoga silt loam

### Seeding Method: 10 row plot seeder
Replications: 4

### Seeding Date: May 11, 1979
Cuttings: C1 June 11
C2 July 9
C3 Aug. 18

### Herbicide:
Fertilizer: 350 Kg/ha of 5-20-20
applied Aug. 1, 1980
TABLE 4 Alfalfa yield trial (Early). Experiment 2812

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| LSD 5% :    | 1058                           | 579   | 372   | 1219  |
| Mean :      | 4682                           | 3202  | 3466  | 11310 |
| C.V. % :    | 16.19                          | 12.85 | 7.63  | 7.66  |

Location: Elora Research Station
Plot Size: 1.5 m by 6.0 m
Design: Randomized complete block
Soil Type: Conestoga Silt Loam
Seeding Method: 10 row plot seeder
Replications: 4
Seeding Date: May 13, 1980
Cuttings: C1 June 9
C2 July 9
C3 Aug. 17
Fertilizer: 350 kg/ha of 5-20-20 applied Aug. 1980
### TABLE 5 Alfalfa yield trial (Early). Experiment 4001
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**Location** - Ottawa Research Station  
**Plot size** - 1.5m by 6.0m  
**Design** - Randomized complete block  
**Soil type** - North Gower clay loam  
**Seeding method** - eight row plot seeder  
**Replications** - 4  
**Seeding date** - May 14, 1980  
**Cuttings** - C1 June 35  
**C2** July 27  
**C3** Sept. 17  
**Herbicide** - Treflan  
**Fertilizer** - 448 Kg/ha of 8-16-16, Sept. 1980
Medium Alfalfa Varieties

CURRENT STATUS OF VARIETIES - Jan. 15, 1982

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</table>

Mean

<table>
<thead>
<tr>
<th>Region</th>
<th>Total Yield (kg/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>6261 5141 5926 6166 6174 6089 6132</td>
</tr>
<tr>
<td>South</td>
<td>12841 12211 12760 12824 12898 13007 12953</td>
</tr>
<tr>
<td>Province</td>
<td>11744 11033 11621 11714 11777 11854 11816</td>
</tr>
</tbody>
</table>

Station year of date | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
### MEDIUM ALFALFA. ENTRIES ELIGIBLE FOR CONSIDERATION IN 1981

<table>
<thead>
<tr>
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<th>CHECK</th>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>Spreader-II</th>
<th>76-1</th>
<th>CW69</th>
<th>520</th>
<th>Iroquois</th>
<th>Average</th>
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<tr>
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<tr>
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<td>15665</td>
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<td>1981</td>
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<td>14786</td>
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<td>14664</td>
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<td>1980</td>
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<td>13892</td>
<td>13195</td>
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<td>13674</td>
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<tr>
<td></td>
<td>1981</td>
<td>9931</td>
<td>11620</td>
<td>10679</td>
<td>11324</td>
<td>10931</td>
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<tr>
<td>Kemptville</td>
<td>1980</td>
<td>11109</td>
<td>12177</td>
<td>11625</td>
<td>11487</td>
<td>12246</td>
</tr>
<tr>
<td>Thunder Bay</td>
<td>1980</td>
<td>5592</td>
<td>6119</td>
<td>5877</td>
<td>5833</td>
<td>5680</td>
</tr>
</tbody>
</table>

| 1980 Seeding |             |      |      |     |          |         |
| Ridgetown 1981 | 13280 | 14442 | 15024 | 15159 | -       | 15159 |
| Guelph     | 1981    | 12364 | 12377 | 11696 | 12882 | -       | 12882 |
| Ottawa     | 1981    | 12378 | 16205 | 16186 | 16250 | -       | 16250 |
| New Liskeard | 1981 | 9736  | 10109 | 10170 | 10276 | -       | 10276 |

| Mean |             |      |      |     |          |         |
| North | 7664 | 8114 | 8024 | 8055 | 5680 | 8016 |
| South | 12290 | 13895 | 13494 | 13926 | 13128 | 13835 |
| Province | 11365 | 12739 | 12400 | 12752 | 11887 | 12671 |

| Station year of data | 10 | 10 | 10 | 10 | 6 |
## TABLE 6 Alfalfa yield trial (Medium). Experiment 1060
Ridgetown 1980-81 yield data. Seeded 1979

<table>
<thead>
<tr>
<th>Entry</th>
<th>Dry matter yield (Kg/ha) 1981</th>
<th>Total 1980</th>
<th>Mean 2-year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cut 1</td>
<td>Cut 2</td>
<td>Cut 3</td>
</tr>
<tr>
<td>Pioneer 520</td>
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<td>5380</td>
<td>4078</td>
</tr>
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<td>5081</td>
<td>3962</td>
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<td>5563</td>
<td>4940</td>
<td>3859</td>
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<td>Iroquois</td>
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<td>4932</td>
<td>3812</td>
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<td>5462</td>
<td>4815</td>
<td>3862</td>
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<tr>
<td>Vernal</td>
<td>5657</td>
<td>4615</td>
<td>3694</td>
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<td>Angus</td>
<td>5707</td>
<td>4661</td>
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<td>Weevlchek</td>
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<td>5072</td>
<td>3964</td>
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<tr>
<td>Algonquin</td>
<td>5658</td>
<td>4748</td>
<td>3314</td>
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<td>CW 69</td>
<td>5145</td>
<td>4400</td>
<td>4141</td>
</tr>
<tr>
<td>Pickstar</td>
<td>5304</td>
<td>4859</td>
<td>3454</td>
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<tr>
<td>Titan</td>
<td>5808</td>
<td>4240</td>
<td>3521</td>
</tr>
<tr>
<td>T7801</td>
<td>5422</td>
<td>4464</td>
<td>3540</td>
</tr>
<tr>
<td>74D111</td>
<td>5255</td>
<td>4356</td>
<td>3765</td>
</tr>
<tr>
<td>CW 3</td>
<td>5328</td>
<td>4367</td>
<td>3589</td>
</tr>
<tr>
<td>WL 215</td>
<td>4540</td>
<td>4563</td>
<td>3698</td>
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<tr>
<td>Spredor II</td>
<td>4611</td>
<td>4151</td>
<td>3319</td>
</tr>
</tbody>
</table>

LSD 5% : 852 406 288 878 1148
Mean : 5365 4685 3715 13765 15177
C.V. % : 11.17 6.09 5.46 4.49 5.32

Location: Ridgetown
Plot Size: 1.6m x 5.0m
Design: Randomized complete block
Soil Type: Clay Loam
Replications: 4
Seeding Method: Broadcast
Cuttings:
Seeding Date: May 7, 1979
Herbicide: 2,4-DB

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>July 18</td>
<td>June 26</td>
<td>June 11</td>
</tr>
<tr>
<td></td>
<td>Aug. 31</td>
<td>July 25</td>
<td>July 14</td>
</tr>
<tr>
<td></td>
<td>Sept 8</td>
<td></td>
<td>Sept 15</td>
</tr>
</tbody>
</table>

Fertilizer: May 1979 prior to seeding 250 lbs/acre of 6-24-24 Sept. 13, 1979
450 lbs/acre of 0-25-25
TABLE 7  Alfalfa yield trial (Medium). Experiment 1068
Ridgetown 1981 yield data. Seeded 1980

<table>
<thead>
<tr>
<th>Entry</th>
<th>Dry matter yield (Kg/ha) 1981</th>
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<tbody>
<tr>
<td></td>
<td>Cut 1</td>
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<tr>
<td>Dekalb 120</td>
<td>6636</td>
</tr>
<tr>
<td>Iroquois</td>
<td>5602</td>
</tr>
<tr>
<td>79-051</td>
<td>6235</td>
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<tr>
<td>Luz 84</td>
<td>5612</td>
</tr>
<tr>
<td>CW 927</td>
<td>5718</td>
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<tr>
<td>OAC 76-102</td>
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<td>Pioneer 520</td>
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<td>5821</td>
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<tr>
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<td>5329</td>
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<td>5679</td>
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<td>Spredor II</td>
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</table>

| LSD 5% : | 514 | 350 | 326 | 815 |
| Mean    : | 5817 | 5587 | 3744 | 15148 |
| C.V. %  : | 6.25 | 4.44 | 6.16 | 3.80 |

Location: Ridgetown
Plot Size: 1.6m x 5.0m
Design: Randomized complete block
Soil Type: Clay Loam
Seeding Method: Broadcast
Replications: 4
Seeding Date: May 6, 1980
Cuttings:
Herbicide: 2,4-DB

<table>
<thead>
<tr>
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<td>July 15</td>
</tr>
<tr>
<td></td>
<td>Sept 8</td>
</tr>
</tbody>
</table>

Fertilizer:
<table>
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<tr>
<th>Entry</th>
<th>Dry matter yield (kg/ha) 1981</th>
<th>1980 Total</th>
<th>2-year Mean</th>
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<td>3667</td>
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<td>520</td>
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<td>2689</td>
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<td>3281</td>
<td>2910</td>
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<td>2843</td>
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<td>3072</td>
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</table>

|          | LSD 5% : | Mean : | C.V. % : |
|          | 1020     | 4524   | 15.87   |
|          | 335      | 3667   | 6.43    |
|          | 252      | 2797   | 6.33    |
|          | 1118     | 10988  | 7.16    |
|          | 884      | 13631  | 4.56    |

**Location:** Elora Research Station  
**Plot Size:** 1.5m x 6.0m  
**Design:** Randomized complete block  
**Soil Type:** Connestoga silt loam  
**Seeding Method:** 10 row plot seeder  
**Replications:** 4  
**Seeding Date:** May 11, 1979  
**Cuttings:**  
- C₁ June 23  
- C₂ July 23  
- C₃ Aug. 24  
**Fertilizer:** 350 kg/ha of 5-20-20 applied August 1980
TABLE 9  Alfalfa yield trial (Medium). Experiment 2814  

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<tr>
<th>Entry</th>
<th>Dry matter yield (Kg/ha) 1981</th>
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</thead>
<tbody>
<tr>
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<td>7053</td>
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<td>CW 6306</td>
<td>6797</td>
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<td>Iroquois</td>
<td>6688</td>
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<td>Lab 78</td>
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<tr>
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<td>OAC76-102</td>
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<td>5784</td>
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<tr>
<td>CW 69</td>
<td>5506</td>
</tr>
</tbody>
</table>

| LSD 5% :       | 889   | 290   | 709   | 1101  |
| Mean :         | 6412  | 2507  | 3646  | 12565 |
| C.V. % :       | 9.80  | 8.18  | 13.75 | 6.20  |

| Location:      | Elora Research Station |
| Design:        | Randomized complete block |
| Seeding Method:| 10 row plot seeder |
| Seeding Date:  | May 13, 1980 |
| Herbicide:     |                     |
|                |                     |
| Plot Size:     | 1.5m x 6.0m |
| Soil Type:     | Connestoga silt loam |
| Replications:  | 4 |
| Cuttings:      | C₁ June 19 |
|                | C₂ July 15 |
|                | C₃ Aug. 24  |
| Fertilizer:    | 350 kg/ha of 5-20-20 applied August, 1980 |
TABLE 10 Alfalfa yield trial (Medium). Experiment 4002
Ottawa 1981 yield data. Seeded 1980

<table>
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<tr>
<th>Entry</th>
<th>Dry matter yield (Kg/ha) 1981</th>
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<td>Cut 1</td>
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<tr>
<td>Dekalb 120</td>
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<tr>
<td>Iroquois</td>
<td>6419</td>
</tr>
</tbody>
</table>

| LSD 5% | 2207 | 474  | 406  | 2516  |
| Mean   | 8358 | 3230 | 3306 | 14895 |
| C.V. % | 18.67| 10.38| 8.69 | 11.94 |

Location - Ottawa Research Station  Plot size - 1.5m by 6.0m
Design - Randomized complete block  Soil type - North Gower clay loam
Seeding method - eight row plot seeder  Replications - 4
Seeding date - May 14, 1980  Cuttings - C1 June 25
                                C2 July 27
                                C3 Sept.16
Herbicide - Treflan  Fertilizer - 448 Kg/ha of 8-16-16, Sept.1980
TABLE 11  Alfalfa yield trial (Medium).  Experiment 8003  

<table>
<thead>
<tr>
<th>Entry</th>
<th>Dry matter yield (Kg/ha) 1981</th>
</tr>
</thead>
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<td>Cut 1</td>
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<tr>
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<td>79-051</td>
<td>5960</td>
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<td>MLM 02015</td>
<td>5515</td>
</tr>
<tr>
<td>79161</td>
<td>5748</td>
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<tr>
<td>Dekalb 120</td>
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<tr>
<td>CW 69</td>
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<td>OAC 76-1</td>
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<td>LSC 006</td>
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<tr>
<td>Lab 78</td>
<td>5352</td>
</tr>
<tr>
<td>Spredor II</td>
<td>5997</td>
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</tbody>
</table>

LSD 5% : 740  377  247  776  
Mean : 5663  2771  1976  10410  
C.V. % : 9.25  9.63  8.86  5.27
TABLE 12  Alfalfa performance trial (Early). Experiment 4003
Ottawa 1981 yield data. Seeded 1980

<table>
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<th>Entry</th>
<th>Dry matter yield (Kg/ha) 1981</th>
</tr>
</thead>
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<td>Cut 1</td>
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<td>Pacer</td>
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<td>Apollo</td>
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</table>

LSD 5%: 886  369  626  1138
Mean : 6537  3084  3156  12778
C.V. % : 8.00  7.07  11.71  5.26

Location - Ottawa Research Station
Plot size - 1.5m by 6.0m

Design - Randomized complete block
Soil type - North Gower clay loam

Seeding method - eight row plot seeder
Replications - 4

Seeding date - May 15, 1980
Cuttings - C1 June 29
C2 July 28
C3 Sept.18

Herbicide - Treflan
Fertilizer - 448 Kg/ha of 8-16-16, Sept.1980
TABLE 13  Alfalfa performance trial (Medium). Experiment 4004
Ottawa 1981 yield data. Seeded 1980

<table>
<thead>
<tr>
<th>Entry</th>
<th>Dry matter yield (Kg/ha) 1981</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cut 1</td>
</tr>
<tr>
<td>Futura</td>
<td>6977</td>
</tr>
<tr>
<td>Dekalb 120</td>
<td>7007</td>
</tr>
<tr>
<td>Valor</td>
<td>6536</td>
</tr>
<tr>
<td>Pickstar</td>
<td>6360</td>
</tr>
<tr>
<td>WL-215</td>
<td>6111</td>
</tr>
<tr>
<td>Weevlechek</td>
<td>6724</td>
</tr>
<tr>
<td>520</td>
<td>6464</td>
</tr>
<tr>
<td>Algonquin</td>
<td>6806</td>
</tr>
<tr>
<td>Magnum</td>
<td>6056</td>
</tr>
<tr>
<td>Titan</td>
<td>6524</td>
</tr>
<tr>
<td>Vernal</td>
<td>6573</td>
</tr>
<tr>
<td>Iroquois</td>
<td>5144</td>
</tr>
</tbody>
</table>

| LSD 5% :     | 1034  | 574   | 380   | 1454  |
| Mean :       | 6440  | 2537  | 3022  | 12000 |
| C.V. % :     | 9.48  | 13.35 | 7.42  | 7.16  |

Location - Ottawa Research Station
Plot size - 1.5m by 6.0m
Design - Randomized complete block
Soil type - North Gower clay loam
Seeding method - eight row plot seeder
Replications - 3
Seeding date - May 15, 1980
Cuttings - C1 June 30
C2 July 28
C3 Sept. 18
Herbicide - Treflan
Fertilizer - 448 Kg/ha of 8-16-16, Sept. 1980
### TABLE 14  Alfalfa yield trial (Early performance).  Experiment 2811  

<table>
<thead>
<tr>
<th>Entry</th>
<th>Dry matter yield (Kg/ha) 1981</th>
</tr>
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<tbody>
<tr>
<td></td>
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<tr>
<td>Citation</td>
<td>5517</td>
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<tr>
<td>Primal</td>
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<td>Ceres</td>
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<tr>
<td>Classic</td>
<td>5148</td>
</tr>
<tr>
<td>Vista</td>
<td>4894</td>
</tr>
<tr>
<td>Thor</td>
<td>4968</td>
</tr>
<tr>
<td>Banner</td>
<td>5071</td>
</tr>
<tr>
<td>Apollo</td>
<td>4594</td>
</tr>
<tr>
<td>Anchor</td>
<td>4780</td>
</tr>
<tr>
<td>Saranac</td>
<td>4828</td>
</tr>
<tr>
<td>Pacer</td>
<td>4985</td>
</tr>
<tr>
<td>Angus</td>
<td>4865</td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>LSD 5%</th>
<th>Mean</th>
<th>C.V. %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>512</td>
<td>4942</td>
<td>7.18</td>
</tr>
<tr>
<td></td>
<td>795</td>
<td>3030</td>
<td>18.18</td>
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<tr>
<td></td>
<td>228</td>
<td>3450</td>
<td>4.58</td>
</tr>
</tbody>
</table>

- LSD 5% is the least significant difference at the 5% level.
- Mean is the average dry matter yield for each entry.
- C.V. % is the coefficient of variation.

**Location:** E1oza Research Station

**Plot Size:** 1.5m x 6.0m

**Design:** Randomized complete block

**Seeding Method:** 10 row plot seeder

**Seeding Date:** May 13, 1980

**Herbicide:**

**Soil Type:** Connestoga silt loam

**Replications:** 4

**Cuttings:**
- C₁ June 8
- C₂ July 9
- C₃ Aug. 17

**Fertilizer:** 350 kg/ha of 5-20-20 applied August 1980

<table>
<thead>
<tr>
<th>Entry</th>
<th>Dry matter yield (Kg/ha) 1981</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cut 1</td>
</tr>
<tr>
<td>Futura</td>
<td>6438</td>
</tr>
<tr>
<td>Dekalb 120</td>
<td>6291</td>
</tr>
<tr>
<td>WL-215</td>
<td>5926</td>
</tr>
<tr>
<td>Weevlcheck</td>
<td>6105</td>
</tr>
<tr>
<td>Titan</td>
<td>6441</td>
</tr>
<tr>
<td>Algonquin</td>
<td>6176</td>
</tr>
<tr>
<td>Iroquois</td>
<td>6122</td>
</tr>
<tr>
<td>Valor</td>
<td>6248</td>
</tr>
<tr>
<td>Magnum</td>
<td>5886</td>
</tr>
<tr>
<td>520</td>
<td>6018</td>
</tr>
<tr>
<td>Pickstar</td>
<td>6262</td>
</tr>
<tr>
<td>Vernal</td>
<td>5741</td>
</tr>
<tr>
<td>LSD 5% :</td>
<td>901</td>
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<tr>
<td>Mean :</td>
<td>6138</td>
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<tr>
<td>C.V. % :</td>
<td>10.18</td>
</tr>
</tbody>
</table>

Location: Elora Research Station
Plot Size: 1.5m x 6.0m
Design: Randomized complete block
Soil Type: Connestoga silt loam
Seeding Method: 10 row plot seeder
Replications: 4
Seeding Date: May 13, 1980
Cuttings: C<sub>1</sub> June 19
C<sub>2</sub> July 15
C<sub>3</sub> Aug. 24
Herbicide: 
Fertilizer: 350 kg/ha of 5-20-20 applied August 1980
### TABLE 16  Alfalfa yield trial (Early performance). Experiment 8001 New Liskeard, 1981 yield data. Seeded 1980

<table>
<thead>
<tr>
<th>Entry</th>
<th>Dry matter yield (Kg/ha) 1981</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cut 1</td>
<td>Cut 2</td>
<td>Cut 3</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Primal</td>
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<td>3191</td>
<td>2524</td>
<td>11357</td>
<td></td>
</tr>
<tr>
<td>Thor</td>
<td>5830</td>
<td>2970</td>
<td>2519</td>
<td>11318</td>
<td></td>
</tr>
<tr>
<td>Angus</td>
<td>5830</td>
<td>2947</td>
<td>2239</td>
<td>11016</td>
<td></td>
</tr>
<tr>
<td>Citation</td>
<td>5534</td>
<td>2999</td>
<td>2479</td>
<td>11013</td>
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<tr>
<td>Classic</td>
<td>6510</td>
<td>2451</td>
<td>2001</td>
<td>10962</td>
<td></td>
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<tr>
<td>Saranac</td>
<td>5738</td>
<td>2878</td>
<td>2297</td>
<td>10912</td>
<td></td>
</tr>
<tr>
<td>Banner</td>
<td>5233</td>
<td>3142</td>
<td>2505</td>
<td>10880</td>
<td></td>
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<tr>
<td>Vista</td>
<td>5412</td>
<td>2734</td>
<td>2257</td>
<td>10403</td>
<td></td>
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<tr>
<td>Pacer</td>
<td>5465</td>
<td>2668</td>
<td>2234</td>
<td>10368</td>
<td></td>
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<tr>
<td>Apollo</td>
<td>5030</td>
<td>2932</td>
<td>2212</td>
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<tr>
<td>Anchor</td>
<td>5326</td>
<td>2625</td>
<td>2183</td>
<td>10133</td>
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<td>5074</td>
<td>2925</td>
<td>2056</td>
<td>10055</td>
<td></td>
</tr>
</tbody>
</table>

| LSD 5%    | 1255                          | 377   | 235   | 1148  |
| Mean      | 5552                          | 2872  | 2292  | 10716 |
| C.V. %    | 13.35                         | 7.76  | 6.05  | 6.33  |

LSD = least significant difference; C.V. = coefficient of variation.
Alfalfa Varieties Up for Consideration, 1981 (Nov.)

Phytophthora Resistance Information

(Minnesota official ratings)

<table>
<thead>
<tr>
<th>Early Alfalfa</th>
<th>% Plants Resistant</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.Q. Syn 2</td>
<td>4</td>
</tr>
<tr>
<td>Blazer</td>
<td>26</td>
</tr>
<tr>
<td>Hi-Phy</td>
<td>27</td>
</tr>
<tr>
<td>WL312</td>
<td>25</td>
</tr>
<tr>
<td>Epic</td>
<td>34</td>
</tr>
<tr>
<td>G7730</td>
<td>63</td>
</tr>
<tr>
<td>CW27</td>
<td>*</td>
</tr>
<tr>
<td>CW62</td>
<td>35</td>
</tr>
<tr>
<td>77-2</td>
<td>*</td>
</tr>
<tr>
<td>78-1</td>
<td>*</td>
</tr>
<tr>
<td>Honeyoye</td>
<td>1</td>
</tr>
<tr>
<td>532</td>
<td>*</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Medium Alfalfa</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>74 Dlll</td>
<td>6</td>
</tr>
<tr>
<td>GW3</td>
<td>30</td>
</tr>
<tr>
<td>CW68</td>
<td>2</td>
</tr>
<tr>
<td>T7801</td>
<td>2</td>
</tr>
<tr>
<td>K6-11</td>
<td>*</td>
</tr>
<tr>
<td>76-1</td>
<td>*</td>
</tr>
<tr>
<td>GW69</td>
<td>16</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Deferred Varieties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlas</td>
<td>*</td>
</tr>
<tr>
<td>PS10</td>
<td>3</td>
</tr>
<tr>
<td>Glory (02019)</td>
<td>3</td>
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</tbody>
</table>

* Resistance not claimed on entry of variety. No data on hand.
### 1981 ALFALFA PHYTOPHTHORA ROOT ROT
### FIELD TRIAL
### FORAGE CROPS SECTION
### OTTAWA RESEARCH STATION

<table>
<thead>
<tr>
<th>Entry</th>
<th>Ottawa Code No.</th>
<th>Disease* Severity Index</th>
<th>Duncan's** Multiple Range Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saranac</td>
<td>17</td>
<td>3.21</td>
<td>a</td>
</tr>
<tr>
<td>S.Q.Syn.2</td>
<td>21</td>
<td>3.20</td>
<td>a</td>
</tr>
<tr>
<td>74D111</td>
<td>5</td>
<td>2.99</td>
<td>ab</td>
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<tr>
<td>WL315</td>
<td>23</td>
<td>2.88</td>
<td>abc</td>
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<tr>
<td>77-8</td>
<td>22</td>
<td>2.84</td>
<td>abc</td>
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<tr>
<td>T7801</td>
<td>4</td>
<td>2.79</td>
<td>abc</td>
</tr>
<tr>
<td>80335 Ca.B.</td>
<td>20</td>
<td>2.71</td>
<td>abc</td>
</tr>
<tr>
<td>80334 Ca.B.</td>
<td>19</td>
<td>2.62</td>
<td>abc</td>
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<tr>
<td>Armor</td>
<td>27</td>
<td>2.56</td>
<td>abc</td>
</tr>
<tr>
<td>Apollo</td>
<td>28</td>
<td>2.46</td>
<td>abc</td>
</tr>
<tr>
<td>Ca. 670-71</td>
<td>18</td>
<td>2.36</td>
<td>abc</td>
</tr>
<tr>
<td>Peak</td>
<td>9</td>
<td>2.20</td>
<td>abc</td>
</tr>
<tr>
<td>G7730</td>
<td>10</td>
<td>2.16</td>
<td>abc</td>
</tr>
<tr>
<td>75-T-12</td>
<td>14</td>
<td>2.07</td>
<td>abc</td>
</tr>
<tr>
<td>79161</td>
<td>3</td>
<td>2.04</td>
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<tr>
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<td>abc</td>
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<td>1.81</td>
<td>abc</td>
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<td>77T1</td>
<td>24</td>
<td>1.77</td>
<td>abc</td>
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<td>8</td>
<td>1.73</td>
<td>abc</td>
</tr>
<tr>
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<tr>
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<td>Agate</td>
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<tr>
<td>120</td>
<td>16</td>
<td>1.48</td>
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<td>12</td>
<td>1.41</td>
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<td>1.40</td>
<td>bc</td>
</tr>
<tr>
<td>Oneida</td>
<td>11</td>
<td>1.19</td>
<td>c</td>
</tr>
</tbody>
</table>

S.E. = 0.54; Average = 2.11; C.V. = 36%

*Average severity index from scoring individual plants grown in the field in each of two replications (about 75 plants per entry).

**P = 0.05

\[ \frac{1}{n} = 1.914 \]

\[ LSD_{0.05} = 0.71 \]
**1981 ALFALFA BACTERIAL WILT TRIAL**

**FORAGE CROPS SECTION**

**OTTAWA RESEARCH STATION**

<table>
<thead>
<tr>
<th>Entry</th>
<th>Ottawa Code No.</th>
<th>Disease* Severity Index</th>
<th>Duncan's** Multiple Range</th>
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</thead>
<tbody>
<tr>
<td>Deputit</td>
<td>18</td>
<td>3.11</td>
<td>a</td>
</tr>
<tr>
<td>Honeoye</td>
<td>12</td>
<td>2.55</td>
<td>ab</td>
</tr>
<tr>
<td>Blazer</td>
<td>15</td>
<td>2.51</td>
<td>abc</td>
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<tr>
<td>Vernal</td>
<td>19</td>
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<tr>
<td>Hi-Phy</td>
<td>4</td>
<td>2.04</td>
<td>bcd</td>
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<td>532</td>
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<td>1.98</td>
<td>bcd</td>
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<td>K6-11</td>
<td>1</td>
<td>1.97</td>
<td>bcd</td>
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<tr>
<td>CW62</td>
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</tr>
<tr>
<td>76-1</td>
<td>2</td>
<td>1.58</td>
<td>d</td>
</tr>
</tbody>
</table>

S.E. = 0.244; Mean = 2.14; C.V. = 25%

*Average severity index from scoring individual plants grown in the greenhouse in each of 5 replications (about 20 plants per entry per pot).

**P = 0.05**

\[
\text{LSD}_{0.05} = 0.32
\]
### EXPT 3001  76 SEEDED EARLY ALFALFA 1981 KCAT

<table>
<thead>
<tr>
<th>CODE</th>
<th>NAME</th>
<th>CUT 1</th>
<th>CUT 2</th>
<th>TOTAL KG/HA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1056</td>
<td>Olympic</td>
<td>4593.52</td>
<td>3194.08</td>
<td>7787.61 (1)</td>
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<tr>
<td>1053</td>
<td>Vista</td>
<td>4300.65</td>
<td>3340.58</td>
<td>7641.23 (2)</td>
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<tr>
<td>1018</td>
<td>OD-17 (Angus)</td>
<td>4238.42</td>
<td>3291.98</td>
<td>7530.40 (3)</td>
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<tr>
<td>1058</td>
<td>NAPB 51</td>
<td>4216.21</td>
<td>3249.45</td>
<td>7465.66 (4)</td>
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<tr>
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<td>Atlas</td>
<td>4354.59</td>
<td>2989.20</td>
<td>7343.78 (5)</td>
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<tr>
<td>1054</td>
<td>Apollo</td>
<td>4169.53</td>
<td>3131.34</td>
<td>7300.87 (6)</td>
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<tr>
<td>1022</td>
<td>Banner (Pioneer)</td>
<td>3755.04</td>
<td>3527.90</td>
<td>7282.93 (7)</td>
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<tr>
<td>1003</td>
<td>R.P. 38 (Anchor)</td>
<td>4015.40</td>
<td>3108.33</td>
<td>7123.73 (8)</td>
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<tr>
<td>1001</td>
<td>Saranac</td>
<td>3925.77</td>
<td>3165.28</td>
<td>7091.05 (9)</td>
</tr>
<tr>
<td>1005</td>
<td>NK-150 (Thor)</td>
<td>3922.31</td>
<td>2902.46</td>
<td>6824.77 (10)</td>
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<tr>
<td>1055</td>
<td>Vangard (Victor)</td>
<td>3495.16</td>
<td>3271.00</td>
<td>6756.16 (11)</td>
</tr>
</tbody>
</table>

L.S.D. 5% (kg/ha): 865.97 677.38 1281.48
Total Mean (kg/ha): 4088.77 3197.40 7286.18
C.V. 14.67 14.67 12.18

1981 Agronomic data
- Harvested - June 18/81 - Cut 1
  Aug. 21/81 - Cut 2
  No 3rd Cut

- Fertilizer - Fall '80 - 300 lb/ac of 0-25-25
  Fall '81 - 200 lb/ac of 0-25-25

- Herbicide - N/A
## SUMMARY OF '76 MEDIUM ALFALFA AT KCAT

### YEARLY YIELD IN KG/HA

<table>
<thead>
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L.S.D. 5% 766 1224 914 997

C.V. 11.03% 10.85% 6.84% 11.00%

1977 Yield data correlated with 1981 r = + 0.18 ns
SUMMARY OF '76 EARLY ALFALFA AT KCAT

YEARLY YIELD IN KG/HA

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L.S.D., 5% 889 1001 803 1281
C.V. 12.33% 8.60% 5.56% 12.18%

1977 Yield data correlated with
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L.S.D. 5% (kg/ha): 624.30  578.61  997.41
Total Mean (kg/ha): 3667.86  2746.56  6414.43
C.V. = 12.04  14.90  11.00

1981 Agronomic Data
Harvested - June 18/81 - Cut 1
Aug. 21/81 - Cut 2
No 3rd Cut

Fertilizer - Fall - '80 300 lb/ac of 0-25-25
Fall - '81 200 lb/ac of 0-25-25

Herbicide - N/A
Bird's-foot Trefoil Varieties

CURRENT STATUS OF VARIETIES - Jan. 15, 1982

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Birdsfoot trefoil varieties eligible for consideration.

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2 1979 yields from Ottawa, Thunder Bay and Ridgetown. Ottawa and Thunder Bay have only Cut 1 date.
3 1980 yields from Ridgetown only.
5 1981 results from Ottawa only.

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<tr>
<td>RC3 Syn 3</td>
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<td>6145</td>
<td>9380</td>
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</table>

**LSD 5%**
- 537
- 331
- 465
- 452
- 575
- 755

**Mean**
- 6888
- 6174
- 9552
- 4884
- 3621
- 8505

**C.V. (%)**
- 5.4
- 4.5
- 4.1
- 6.5
- 11.1
- 6.2

---

Location - Elora Research Station  
Design - Randomized complete block  
Seeding method - S row plot seeder  
Herbicide - Etam  
Plot size - 1.5 m by 6.2 m  
Soil type - Silt loam  
Cuttings - C1, June 16; C2, August 4  
Fertilizer - 168 lb/acre 0-20-20, June 1981

<table>
<thead>
<tr>
<th>Variety</th>
<th>Seeding yr. yield</th>
<th>1980 yield</th>
<th>1981 yield</th>
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<tr>
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<td>3495</td>
<td>3702</td>
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<td>2604</td>
<td>3072</td>
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<td>Dawn</td>
<td>3509</td>
<td>3330</td>
<td>3743</td>
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<td>KO-4</td>
<td>2901</td>
<td>3110</td>
<td>3036</td>
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<td>8.8</td>
<td>9.4</td>
<td>7.6</td>
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Location - Kapuskasing Experimental Farm
Design - Randomized complete block
Seeding method - 7" rows - 8 row seeder
Herbicide - none
Plot size - 1.5 m x 6.2 m
Soil type - heavy clay
Cuttings - C1, July 6; C2, Sept. 15
Fertilizer - Fall 275 kg/ha 0-30-45
Planting date - May 18, 1979

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<th>Variety</th>
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<th>Total</th>
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<td>7010</td>
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<td>PS 79055</td>
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<td>17.6</td>
<td>17.4</td>
<td>14.1</td>
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Location - Ottawa Research Station  
Design - Randomized complete block  
Seeding method - 8 row plot seeder  
Herbicide - Treflan  
Plot size - 1.5 m x 6.2 m  
Soil type - North Gower clay loam  
Cuttings - C1, June 30; C2, Sept. 17  
Fertilizer - Sept. 448 kg/ha 8-16-16  
Seeded May 14, 1980

<table>
<thead>
<tr>
<th>Variety</th>
<th>Elora</th>
<th>Kemptville</th>
<th>Mean</th>
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<td>4811</td>
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<td>529</td>
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Trefoil variety trials.

Correlation between seeding year and 2nd year data.

### Exp. 2532. Seeded 1978

<table>
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<td>Montana</td>
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Correlation 0.08

### Exp. 2570. Seeded 1980

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Correlation 0.59

### 1979 Seeded trials.

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Correlation 0.27 0.46
Red Clover Varieties
CURRENT STATUS OF VARIETIES - Jan. 15, 1982

<table>
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<tr>
<th>Variety</th>
<th>Entered by</th>
<th>Official Status</th>
<th>Station Years of Data</th>
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</thead>
<tbody>
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<td>Arlington</td>
<td>O.F.C.C.</td>
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<td>Florex</td>
<td>O.F.C.C.</td>
<td>&quot;</td>
<td>-</td>
</tr>
<tr>
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<td>O.F.C.C.</td>
<td>&quot;</td>
<td>-</td>
</tr>
<tr>
<td>Ottawa</td>
<td>O.F.C.C.</td>
<td>&quot;</td>
<td>-</td>
</tr>
<tr>
<td>Prosper I</td>
<td>O.F.C.C.</td>
<td>&quot;</td>
<td>-</td>
</tr>
<tr>
<td>Bytown</td>
<td>O.R.S.</td>
<td>Licenced, deferred</td>
<td>-</td>
</tr>
<tr>
<td>Tristan</td>
<td>OSEC O</td>
<td>Not supported 1981, re-examine 1982</td>
<td>6</td>
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<tr>
<td>Redland II</td>
<td>NAPB</td>
<td>Not supported 1981, re-examine 1982</td>
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<td>Ruby</td>
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<td>7801</td>
<td>Landis</td>
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<tr>
<td>Pacific</td>
<td>Richardson</td>
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### 1981 RED CLOVER SUMMARY

Total Yields kg/ha

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<th>Code</th>
<th>Cultivar Name</th>
<th>Ridgetown '79 Seeded</th>
<th>Kapuskasing '79 Seeded</th>
<th>Kemptville '79 Seeded</th>
<th>Kemptville '80 Seeded</th>
<th>Elora '80 Seeded</th>
<th>Thunder Bay '80 Seeded</th>
<th>Mean Yield</th>
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<td># 6559</td>
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<td>---</td>
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<td>9694.07</td>
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<td>---</td>
<td>8719.73</td>
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* Comparisons of mean yield valid only between cultivars tested at identical locations.
THUNDER BAY EXPT 7139  '80 SEEDED RED CLOVER VARIETY TEST 1981

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<tr>
<th>Code</th>
<th>Name</th>
<th>Cut 1</th>
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<th>Total kg/ha</th>
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</table>

LSD 5% (kg/ha): 501.54 234.50 530.47
TOTAL MEAN (kg/ha): 3271.46 1805.54 5079.00
CV = 10.57 8.94 7.20

Soil Type - Sandy loam
Experimental Design - Randomized block - 4 reps.
Plot size - 1.5m x 6.0m in length
Size sample harvested - .61m x 5.0m
Variety - 10 varieties
Fertilizers 1980 - 35 kg/ha N - 80 kg/ha P(205) - 80 kg/ha K(20)
- applied spring and fall
1981 - 80 kg/ha P(205) - 80 kg/ha K(20)
- applied spring and fall
Herbicides 1980 - applied Paraquat in spring prior to seeding
1981 - no herbicides applied
Seeding date - May 16, 1980
Harvest date - Cut 1 - July 3 Cut 2 - August 11
Previous Crop - Plough down cereal crop for green manure
Seeding method - Broadcast - by hand
Harvest method - Plot - forage harvester
<table>
<thead>
<tr>
<th>CODE</th>
<th>NAME</th>
<th>CUT 1</th>
<th>CUT 2</th>
<th>CUT 3</th>
<th>TOTAL kg/ha</th>
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<tr>
<td>4029</td>
<td>Tristan</td>
<td>4799.18</td>
<td>3876.55</td>
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<tr>
<td>4003</td>
<td>Ottawa</td>
<td>3411.78</td>
<td>4194.27</td>
<td>0.0</td>
<td>7606.05</td>
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LSD 5% (kg/ha): 485.57 854.49 0.0 860.09
TOTAL MEAN (kg/ha): 4443.21 4504.55 0.0 8947.77
CV = 7.36 12.77 0.0 6.47

Soil Type - Osgoode Loam
Previous Crop - Forages
Location - Range 9 Kemptville
Test Size - 50' x 80'
Variety - N/A
Seeding Rate - 10 lbs/ac
Herbicide - N/A
Fertilizer - Fall '80 - 300 lbs. 0-25-25
- Fall '81 - Plowed
Planting Date - May 8/79
Harvest Date - Cut 1 - June 25
- Cut 2 - August 18
**KEMPTVILLE EXPT 3041 '80 SEEDED RED CLOVER, HARVESTED 1981**

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Cut 1</th>
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<th>Total kg/ha</th>
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<tbody>
<tr>
<td>4029</td>
<td>Tristan</td>
<td>4844.77</td>
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<tr>
<td>4017</td>
<td>K8-115 (Florex)</td>
<td>5270.55</td>
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<td>5186.74</td>
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<td>5059.68</td>
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<td>Ruby</td>
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<td>LSD 5% (kg/ha):</td>
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<td>CV</td>
<td>10.21</td>
<td>9.12</td>
<td>5.15</td>
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Soil Type: North Gower Clay Loam  
Previous Crop: Forages  
Location: Range 8 Kemptville  
Test Size: 60' x 80'  
Variety: N/A  
Seeding Rate: 10 lbs/ac  
Herbicide: N/A  
Fertilizer Fall 1980: 0-25-25 @ 300 lbs/ac  
Fertilizer Fall 1981: 0-25-25 @ 300 lbs/ac  
Planting Date: May 8, 1980  
Harvest Date:  
- Cut 1: June 25, 1981  
- Cut 2: August 18, 1981
ELORA EXPT 2569 '80 SEEDRED RED CLOVER VARIETY TRIAL, HARVESTED 1981

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<th>Total kg/ha</th>
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<td>Pacific</td>
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<td>2187.32</td>
<td>7102.75</td>
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LSD 5% (kg/ha): 798.08 344.10 856.84

TOTAL MEAN (kg/ha): 6270.32 2775.52 9045.86

CV = 8.77 8.54 6.53

Design: Randomized Complete Block
Seeding Method: 5 Row Plot Seeder
Herbicide: Eptam
Plot Size: 1.5 m by 6.0 m
Soil Type: Silt Loam
Replications: 4
Cuttings: Cut 1 - June 9, Cut 2 - July 8, Cut 3 - August 4, Cut 4 - August 31
Fertilizer: 168 kg/ha 0-20-20 June, 1981
<table>
<thead>
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<th>Variety</th>
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<th>Station Years of Data</th>
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<tbody>
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<td>Merit</td>
<td>O.F.C.C.</td>
<td>Drop from 296, no seed available</td>
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<tr>
<td>Pilgrim</td>
<td>O.F.C.C.</td>
<td>Licensed, not supported, testing completed</td>
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</tr>
<tr>
<td>Ladino</td>
<td>O.F.C.C.</td>
<td>Licensed, not supported, testing completed</td>
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<tr>
<td>Sacramento</td>
<td>T. Szego</td>
<td>Support for licence, deferred (1)</td>
<td>9</td>
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<tr>
<td>Szarvasi</td>
<td>Pickseed</td>
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<tr>
<td>Elora</td>
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<td>4781</td>
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<tr>
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<td>2701</td>
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<tr>
<td>Thunder Bay</td>
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<td>1838</td>
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<tr>
<td>Thunder Bay</td>
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<td>4324</td>
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Mean: 5662.3 5252.6 5288.2 5413.5 5391.4 4394.5
ELORA EXPT 2558 '79 SEEDED WHITE CLOVER VARIETY TRIAL, HARVESTED 1981

<table>
<thead>
<tr>
<th>Code</th>
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<th>Total kg/ha</th>
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<tbody>
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<td>8005</td>
<td>Sacramento</td>
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<tr>
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<td>Szarvasi</td>
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<td>Common</td>
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<td>2055.62</td>
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</table>

LSD 5% (kg/ha): 377.31 560.89 730.65 1547.05
TOTAL MEAN (kg/ha): 2705.34 2604.42 2599.06 7908.80

Design - Randomized Complete Block
Seeding Method - 5 Row Plot Seeder
Herbicide - Treflan
Plot Size - 1.5 m x 6.0 m
Soil Type - Silt Loam
Replications - 4
Cuttings - Cut 1 June 19
- Cut 2 July 23
Seeded - May 7, 1980
<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Cut 1</th>
<th>Cut 2</th>
<th>Cut 3</th>
<th>Total kg/ha</th>
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<tbody>
<tr>
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LSD 5% (kg/ha): 454.67 465.97 0.0 761.51
TOTAL MEAN (kg/ha): 2899.19 1563.56 0.0 4462.75
CV = 8.61 16.37 0.0 9.37

Seeding Method - 4 Row Funnel Seeder
Seeding Date - June 1, 1979
Plot Size - 6 m x 1.2 m
Soil Type - Grenville Loam
Cutting Dates - Cut 1 - June 24, 1981
- Cut 2 - July 23, 1981
- Cut 3 - August 21, 1981
Fertilizer - 448 kg/ha 8-16-16 on Sept. 19, 1980
Replications - 4 and 4 discards
Bromegrass and Reed Canarygrass

Bromegrass yield results in 1981 are reported from three locations from 1979 seedings. For several unlicensed varieties six station years data are now available but no requests for licensing support are expected. No new strains were submitted for testing in either 1980 or 81. A performance test of recommended varieties will be seeded at Ottawa in 1982.

Reed canarygrass yield data include two harvest years at each of three locations for the 1979 seeding of five entries. There is also first harvest year results from a similar test seeded in 1980 at Ottawa. Only the Vantage variety yielded more than the check, Frontier, as a mean of these seven test years and by only 16 kg/ha average. This variety will be added to the recommended list for 1982. No new tests were seeded in 1981.

F. S. Warren
Co-ordinator
### Brome Grass Varieties

**CURRENT STATUS OF VARIETIES - Jan. 15, 1982**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Entered by</th>
<th>Official Status</th>
<th>Station Years of Data</th>
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<td>O.F.C.C.</td>
<td>Recommended, Pub. 296</td>
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<td>Beacon</td>
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<td>Blair</td>
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<td>Saratoga</td>
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<tr>
<td>Tempo</td>
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<td>Bromex</td>
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<td>S 8800</td>
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*Not eligible for consideration 1981, only one seeding year*
### Ontario Bromegrass Tests

**1980 and 1981 hay yields (DM kg/ha) from 1979 seeding**

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<td>9122</td>
<td>2480</td>
<td></td>
<td>11602</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jubilee</td>
<td>8953</td>
<td>2580</td>
<td></td>
<td>11533</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MLM 13010</td>
<td>8970</td>
<td>2503</td>
<td></td>
<td>11473</td>
<td></td>
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</tr>
<tr>
<td>S8590</td>
<td>8788</td>
<td>2423</td>
<td></td>
<td>11211</td>
<td></td>
<td></td>
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<tr>
<td>Mean</td>
<td>9358</td>
<td>2498</td>
<td></td>
<td>11856</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSD (5%)</td>
<td>1413</td>
<td>287</td>
<td></td>
<td>1485</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C.V. (%)</td>
<td>10.5</td>
<td>8.0</td>
<td></td>
<td>8.7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LOCATION: Elora
DESIGN: Rand. Comp. Block
SEEDING METHOD: Cone Seeder
SEEDING DATE: May 22/79
HERBICIDE: None

PLOT SIZE: 5' x 20'
SOIL TYPE: Silt Loam
REPLICATIONS: 4
CUTTING DATES:
1. June 24, 1981
FERTILIZER:
35-0-0, 75 lb/ac
in spring and after each cut.
5-20-20, 50 lb/ac
each fall
ONTARIO BROMEGRASS TEST

1981 hay yields from 1979 seeding

**Expt 3031**

<table>
<thead>
<tr>
<th>Variety or Strain</th>
<th>Cut 1</th>
<th>Cut 2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>S7855</td>
<td>7616</td>
<td>3804</td>
<td>11420</td>
</tr>
<tr>
<td>Blair</td>
<td>7401</td>
<td>3962</td>
<td>11363</td>
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<tr>
<td>Beacon</td>
<td>7301</td>
<td>3638</td>
<td>10939</td>
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<tr>
<td>Baylor</td>
<td>7098</td>
<td>3553</td>
<td>10651</td>
</tr>
<tr>
<td>58590</td>
<td>7356</td>
<td>3168</td>
<td>10524</td>
</tr>
<tr>
<td>Saratoga</td>
<td>6807</td>
<td>3607</td>
<td>10414</td>
</tr>
<tr>
<td>Barton</td>
<td>6660</td>
<td>3726</td>
<td>10386</td>
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<tr>
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<td>6826</td>
<td>3534</td>
<td>10360</td>
</tr>
<tr>
<td>58800</td>
<td>6734</td>
<td>2914</td>
<td>9648</td>
</tr>
<tr>
<td>Tempo</td>
<td>6480</td>
<td>3112</td>
<td>9591</td>
</tr>
<tr>
<td>Jubilee</td>
<td>6476</td>
<td>3040</td>
<td>9516</td>
</tr>
<tr>
<td>MLM13011</td>
<td>6026</td>
<td>3450</td>
<td>9476</td>
</tr>
<tr>
<td>Mean</td>
<td>6898</td>
<td>3459</td>
<td>10357</td>
</tr>
<tr>
<td>L.S.D. (5%)</td>
<td>1420</td>
<td>507</td>
<td>1599</td>
</tr>
<tr>
<td>C.V. (%)</td>
<td>12.2</td>
<td>8.6</td>
<td>9.1</td>
</tr>
</tbody>
</table>

**LOCATION:** Kemptville

**PLOT SIZE:** 1.5m x 6m

**DESIGN:** Randomized Block

**SOIL TYPE:** Sandy Loam

**SEEDING METHOD:** 8 row seeder

**REPLICATION:** 4

**SEEDING DATE:** June 4, 1979

**CUTTINGS:** 1981-June 5, Aug. 19

**HERBICIDE:** None

**FERTILIZER:** 1980-0-25-25 at 280 kg/ha

1981-56 kg/ha nitrogen after each cut.
### ONTARIO BROMEGRASS TEST

1981 hay yield from 1979 seeding

<table>
<thead>
<tr>
<th>Variety or Strain</th>
<th>Cut 1</th>
<th>Yield (D.M. kg/ha)</th>
<th>Cut 2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baylor</td>
<td>10850</td>
<td>2305</td>
<td>13154</td>
<td></td>
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<tr>
<td>Barton</td>
<td>10683</td>
<td>2265</td>
<td>12947</td>
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<tr>
<td>MLM13010</td>
<td>10050</td>
<td>2594</td>
<td>12644</td>
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<tr>
<td>MLM13011</td>
<td>10536</td>
<td>2085</td>
<td>12621</td>
<td></td>
</tr>
<tr>
<td>Saratoga</td>
<td>8965</td>
<td>2537</td>
<td>11502</td>
<td></td>
</tr>
<tr>
<td>Blair</td>
<td>9527</td>
<td>1695</td>
<td>11222</td>
<td></td>
</tr>
<tr>
<td>Beacon</td>
<td>9167</td>
<td>1823</td>
<td>10989</td>
<td></td>
</tr>
<tr>
<td>S7855</td>
<td>8603</td>
<td>1929</td>
<td>10532</td>
<td></td>
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<tr>
<td>Tempo</td>
<td>8344</td>
<td>2049</td>
<td>10393</td>
<td></td>
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<tr>
<td>Jubilee</td>
<td>8151</td>
<td>2161</td>
<td>10312</td>
<td></td>
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<tr>
<td>S8800</td>
<td>8504</td>
<td>1463</td>
<td>9967</td>
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<tr>
<td>S8590</td>
<td>7796</td>
<td>2029</td>
<td>9825</td>
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<td>Deborah</td>
<td>6708</td>
<td>1991</td>
<td>8699</td>
<td></td>
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<tr>
<td>Mean</td>
<td>9068</td>
<td>2071</td>
<td>11139</td>
<td></td>
</tr>
<tr>
<td>L.S.D. (5%)</td>
<td>1724</td>
<td>602</td>
<td>1727</td>
<td></td>
</tr>
<tr>
<td>C.V. (%)</td>
<td>13.2</td>
<td>20.3</td>
<td>10.8</td>
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</tbody>
</table>

**LOCATION:** Ottawa  
**DESIGN:** Randomized Block  
**SEEDING METHOD:** 8 row plot seeder  
**SEEDING DATE:** June 6, 1979  
**HERBICIDE:** 2,4-D  
**PLOT SIZE:** 1.5m x 6m  
**SOIL TYPE:** Clay Loam  
**REPLICATIONS:** 4  
**CUTTINGS:** 1980-June 10, Sept. 8  
1981-June 23, Sept. 14  
**FERTILIZER:** Applied 135 kg/ha nitrogen  
May 5, 1980, 56 kg/ha nitrogen after first cut and 336 kg/ha of 8-16-16 after second cut.  
90 kg/ha nitrogen applied May 1981.
Reed Canary Grass

CURRENT STATUS OF VARIETIES - Jan. 15, 1982

<table>
<thead>
<tr>
<th>Variety</th>
<th>Entered by</th>
<th>Official Status</th>
<th>Station Years of Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rise</td>
<td>O.F.C.C.</td>
<td>Recommended, Pub. 296</td>
<td>-</td>
</tr>
<tr>
<td>Frontier</td>
<td>O.F.C.C.</td>
<td>Recommended, Pub. 296</td>
<td>-</td>
</tr>
<tr>
<td>Grove</td>
<td>O.F.C.C.</td>
<td>Not supported 1981, re-examine 1982</td>
<td>5</td>
</tr>
<tr>
<td>Vantage</td>
<td>NAPB</td>
<td>Recommended in Pub. 296</td>
<td>7</td>
</tr>
<tr>
<td>Castor</td>
<td>O.F.C.C.</td>
<td>Not supported 1981, re-examine 1982</td>
<td>7</td>
</tr>
</tbody>
</table>
## Ontario Reed Canarygrass Tests

**Hay yields (DM kg/ha) 1980, 1981 from 1979 seeding**

<table>
<thead>
<tr>
<th>Variety</th>
<th>1980</th>
<th>1981</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ridgetown</td>
<td>Kemptville</td>
<td>Ottawa</td>
</tr>
<tr>
<td>Castor</td>
<td>11690</td>
<td>10376</td>
<td>8831</td>
</tr>
<tr>
<td>Frontier</td>
<td>12791</td>
<td>12169</td>
<td>9117</td>
</tr>
<tr>
<td>Grove</td>
<td>11921</td>
<td>9094</td>
<td>9426</td>
</tr>
<tr>
<td>Rise</td>
<td>12817</td>
<td>11546</td>
<td>8700</td>
</tr>
<tr>
<td>Vantage</td>
<td>13389</td>
<td>11949</td>
<td>9275</td>
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**Mean**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th>8098</th>
<th>9398</th>
<th>10357</th>
<th>5200</th>
<th>9382</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSD (5%)</td>
<td>996</td>
<td>954</td>
<td>N.S.</td>
<td>1305</td>
<td>1906</td>
<td>1432</td>
<td>642</td>
</tr>
<tr>
<td>C.V. (%)</td>
<td>5.2</td>
<td>5.6</td>
<td>6.1</td>
<td>8.6</td>
<td>10.8</td>
<td>9.0</td>
<td>6.6</td>
</tr>
</tbody>
</table>
Ontario Reed Canarygrass Tests
1981 hay yields from 1979 seeding

<table>
<thead>
<tr>
<th>Variety</th>
<th>Cut 1 (DM kg/ha)</th>
<th>Cut 2 (DM kg/ha)</th>
<th>Total (DM kg/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Experiment 3038</strong> Kemptville</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vantage</td>
<td>6812</td>
<td>3474</td>
<td>10286</td>
</tr>
<tr>
<td>Frontier</td>
<td>6771</td>
<td>3167</td>
<td>9938</td>
</tr>
<tr>
<td>Rise</td>
<td>6579</td>
<td>3000</td>
<td>9578</td>
</tr>
<tr>
<td>Castor</td>
<td>6654</td>
<td>2336</td>
<td>8990</td>
</tr>
<tr>
<td>Grove</td>
<td>5915</td>
<td>2283</td>
<td>8198</td>
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<tr>
<td><strong>Mean</strong></td>
<td>6546</td>
<td>2852</td>
<td>9398</td>
</tr>
<tr>
<td><strong>LSD (5%)</strong></td>
<td>1535</td>
<td>464</td>
<td>1906</td>
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<tr>
<td><strong>C.V. (%)</strong></td>
<td>12.4</td>
<td>8.6</td>
<td>10.8</td>
</tr>
</tbody>
</table>

| **Experiment 4795** Ottawa | | | |
| Grove | 7743 | 3726 | 11469 |
| Frontier | 6310 | 4004 | 10315 |
| Vantage | 6580 | 3666 | 10246 |
| Rise | 6857 | 3349 | 10206 |
| Castor | 6233 | 3317 | 9550 |
| **Mean** | 6745 | 3612 | 10357 |
| **LSD (5%)** | 1285 | 373 | 1432 |
| **C.V. (%)** | 12.4 | 6.7 | 9.0 |

**LOCATION**

<table>
<thead>
<tr>
<th><strong>KEMPTVILLE</strong></th>
<th><strong>OTTAWA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plot Size:</td>
<td>1.5m x 6m</td>
</tr>
<tr>
<td>Design:</td>
<td>Randomized Block</td>
</tr>
<tr>
<td>Soil Type:</td>
<td>Sandy Loam</td>
</tr>
<tr>
<td>Seeding Method:</td>
<td>8 row seeder</td>
</tr>
<tr>
<td>Replication:</td>
<td>4</td>
</tr>
<tr>
<td>Seeding Date:</td>
<td>June 4, 1979</td>
</tr>
<tr>
<td>Herbicide:</td>
<td>None</td>
</tr>
</tbody>
</table>
| Fertilizer: | 1980-0-25-25 at 336 kg/ha | Same as expt. 4792
  1981-56 kg/ha nitrogen after each cut |
## Ontario Reed Canarygrass Test

1981 hay yields from 1979 seeding

**Expt. 6058 Kapuskasing**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Cut 1</th>
<th>Cut 2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frontier</td>
<td>3994</td>
<td>1945</td>
<td>5940</td>
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<tr>
<td>Rise</td>
<td>3765</td>
<td>1797</td>
<td>5562</td>
</tr>
<tr>
<td>Vantage</td>
<td>3967</td>
<td>1568</td>
<td>5535</td>
</tr>
<tr>
<td>Grove</td>
<td>3741</td>
<td>1083</td>
<td>4825</td>
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<tr>
<td>Castor</td>
<td>3264</td>
<td>875</td>
<td>4139</td>
</tr>
<tr>
<td>Mean</td>
<td>3746</td>
<td>1454</td>
<td>5200</td>
</tr>
<tr>
<td>LSD (5%)</td>
<td>439</td>
<td>524</td>
<td>642</td>
</tr>
<tr>
<td>C.V. (%)</td>
<td>6.2</td>
<td>19.1</td>
<td>6.6</td>
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</tbody>
</table>

**LOCATION:** Kapuskasing Experimental Farm

**DESIGN:** Randomized Block

**SEEDING METHOD:** 8 row plot seeder

**SEEDING DATE:** May 18, 1979

**HERBICIDE:** None

**PLOT SIZE:** 1.4m x 6m

**SOIL TYPE:** Clay Loam

**REPLICATIONS:** 3

**CUTTINGS:** 1980 - 1981 - June 29, Sept. 17

**FERTILIZER:** 275 kg/ha of 0-30-15 every fall. 85 kg/ha nitrogen after each cut.
Ontario Reed Canarygrass Test
1981 hay yields from 1980 seeding

Experiment 4805  Ottawa

<table>
<thead>
<tr>
<th>Variety</th>
<th>yield (DM kg/ha)</th>
<th>Cut 1</th>
<th>Cut 2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td>8481</td>
<td>4044</td>
<td>12524</td>
</tr>
<tr>
<td>Rise</td>
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<td>8468</td>
<td>3952</td>
<td>12420</td>
</tr>
<tr>
<td>Castor</td>
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<td>8411</td>
<td>3860</td>
<td>12271</td>
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<td>7806</td>
<td>3773</td>
<td>11579</td>
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<td>Mean</td>
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<td></td>
<td>LSD (5%)</td>
<td>1393</td>
<td>571</td>
<td>1330</td>
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<td></td>
<td>C.V. (%)</td>
<td>10.7</td>
<td>9.5</td>
<td>7.0</td>
</tr>
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LOCATION: Ottawa

DESIGN: Randomized Block

SEEDING METHOD: 8 row plot seeder

SEEDING DATE: May 12, 1980

CUTTINGS: 1981- June 25, Sept. 14

HERBICIDE: 2,4-D

PLOT SIZE: 1.5m x 6m

SOIL TYPE: Clay Loam

REPLICATIONS: 4

FERTILIZER: 90 kg/ha nitrogen applied May 1981
Orchard Grass Varieties

CURRENT STATUS OF VARIETIES - Jan. 15, 1982

<table>
<thead>
<tr>
<th>Variety</th>
<th>Entered by</th>
<th>Official Status</th>
<th>Station Years of Data</th>
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</thead>
<tbody>
<tr>
<td>Hallmark</td>
<td>O.F.C.C.</td>
<td>Recommended, Pub. 296</td>
<td></td>
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<tr>
<td>Juno</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Ina</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Napier</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Sumas</td>
<td>&quot;</td>
<td>&quot;</td>
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</tr>
<tr>
<td>Kay</td>
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<td>&quot;</td>
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</tr>
<tr>
<td>Orion (K3-9)</td>
<td>N.K.</td>
<td>Recommended, Pub. 296</td>
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<tr>
<td>K2-8</td>
<td>N.K.</td>
<td>Supported for lic., Deferred (4)</td>
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<tr>
<td>WWH 92</td>
<td>O.E.E. O</td>
<td>Not supported 1981, testing completed</td>
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<td>CK-SF19</td>
<td>O.R.S.</td>
<td>Not supported 1981, testing completed</td>
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<tr>
<td>Hawk</td>
<td>NAPB</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Crown</td>
<td>NAPB</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>14012</td>
<td>MIM</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>CK-WH-19</td>
<td>O.R.S.</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>OR-WH</td>
<td>O.R.S.</td>
<td></td>
<td>5</td>
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<tr>
<td>K8-122</td>
<td>King</td>
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</table>
Ontario Orchardgrass Test  
1981 yield from 1979 seeding

Experiment 4179  Ottawa

<table>
<thead>
<tr>
<th>Variety</th>
<th>Cut 1</th>
<th>Cut 2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>KAY</td>
<td>9185</td>
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<td>12795</td>
</tr>
<tr>
<td>OK-SF-19</td>
<td>9268</td>
<td>3451</td>
<td>12719</td>
</tr>
<tr>
<td>K3-9</td>
<td>8476</td>
<td>3987</td>
<td>12463</td>
</tr>
<tr>
<td>OK-WH-19</td>
<td>9431</td>
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<td>12094</td>
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<td>SUMAS</td>
<td>8256</td>
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<td>12012</td>
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<td>HAWK</td>
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<td>11799</td>
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<tr>
<td>NAPIER</td>
<td>7172</td>
<td>4351</td>
<td>11523</td>
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<td>JUNO</td>
<td>7504</td>
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<tr>
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<td>10883</td>
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LSD 5% (Kg/Ha): 1628  
TOTAL MEAN (Kg/Ha): 7901  
C.V.: 14.43  

LOCATION: Ottawa Research Station

DESIGN: Randomized block

SEEDING METHOD: Eight row plot seeder

SEEDING DATE: June 6, 1979

HERBICIDE: Spring 1981 2-4-D

PLOT SIZE: 1.5m x 6.0m

SOIL TYPE: Grenville Loam

REPLICATIONS: 4 Reps.

CUTTINGS: cut 1 June 19, 1981  
          Cut 2 Sept. 14, 1981

FERTILIZER: 1980 Fall 300 lbs. 8, 16, 16  
            1981 Spring 90 lbs. N.
Ontario Orchardgrass Test
1981 yield from 1980 seeding

Experiment 4180 Ottawa

<table>
<thead>
<tr>
<th>Variety</th>
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<td>13354 A</td>
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<td>7986 AB</td>
<td>5005</td>
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<td>5043</td>
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<td>11359 BE</td>
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<td>10748 E</td>
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<td>5903 E</td>
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<td>6044 DE</td>
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LSD 5% (Kg/Ha): 1355 625 1511
TOTAL MEAN (Kg/Ha) 6929 4850 11779
C.V.: 13.55 8.92 8.88

LOCATION: Ottawa Research Station
PLOT SIZE: 1.5m x 6.0m
DESIGN: Randomized block
SOIL TYPE: Grenville Loam
SEEDING METHOD: Eight row plot seeder
REPLICATIONS: 4 Reps.
SEEDING DATE: May 12, 1980
CUTTINGS: Cut 1 June 18, 1981
Cut 2 Sept. 16, 1981
HERBICIDE: Spring 1981
2-4-D
FERTILIZER:
Fall 1980 300 lbs. 8-16-16
Spring 1981 90 lbs. N.
Ontario Orchardgrass Test
1981 yield from 1980 seeding

Experiment 3044 Kemptville

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<tr>
<th>Variety</th>
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</table>

LSD 5% (Kg/Ha): 889 656 1150
TOTAL MEAN (Kg/Ha) 4815 3200 8015
C.V.: 12.78 14.20 9.94

LOCATION: "Kemptville Agricultural College

DESIGN: Randomized block

SEEDING METHOD:

SEEDING DATE: May 13, 1980

HERBICIDE: N/A

PLOT SIZE: 1.5 x 6.0 m

SOIL TYPE: Osgoode Loam

REPLICATIONS: 4 Reps.

CUTTINGS: Cut 1 June 5/81
          Cut 2 Aug. 19/81

FERTILIZER:
Fall 1980 0-25-25, 300 lbs/acre
June 1981 & Sept. 4/81
          50 lbs./Acre

After Cut 1 & 2
Ontario Orchardgrass Test
1981 yield from 1980 seeding

Experiment 2815  Guelph

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LSD 5% (Kg/Ha): 795  1590  1983
TOTAL MEAN (Kg/Ha): 7124  3205  10329
C.V.: 7.73  34.37  13.29

LOCATION: Elora Research Station
DESIGN: Randomized block
SEEDING METHOD: Plot seeder
10 rows
SEEDING DATE: May 11, 1980
HERBICIDE: Nil

PLOT SIZE: 1.5 x 6.0
SOIL TYPE: Connestoga Silk Loam
REPLICATIONS: 4
CUTTINGS: Cut 1 8 June
          Cut 2 17 July
FERTILIZER: 50 lbs. N each cut
(1) This Fall, the check cultivars for timothy entries are: Climax
Timfor

(2) Three entries have been supported previously for recommendation in Ontario; namely

(a) Goliath - licence denied by Agriculture Canada; recommendation has been deferred 3 years.

(b) Odenwalder - licence denied by Agriculture Canada; recommendation has been deferred 3 years.

(c) Salvo - licenced; recommendation deferred pending seed availability.

(3) Three entries were not supported for licencing and recommendation in 1980, but more data now available. These entries are:

LPS 23
LPY 10
LSS 9

None of these entries are superior to the checks in yield. Hence, we should not support these for recommendation, and discontinue testing.

(4) Seven strains are eligible for consideration; but all yield less than the checks. Since more data will be available by Fall, 1982, we should re-examine these strains at that time.

(5) Pub. 296 - Unless there is sufficient seed to warrant the inclusion of Salvo, there will be no change in timothy recommendations for 1982.

(6) In 1981, yield data were obtained from the following tests:

(a) Seeded 1980 - Performance Trials at 2 locations (Ottawa & Kapuskasing). These trials include the recommended varieties;

(b) Seeded 1979 - Licencing Trials at 3 locations (Elora, Ottawa, Kapuskasing);

(c) Seeded 1980 - Licencing Trials at 2 locations (Ottawa and Thunder Bay).

B. R. Christie,
Co-ordinator.
**Timothy Varieties**

**CURRENT STATUS OF VARIETIES - Jan. 15, 1982**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Entered by</th>
<th>Official Status</th>
<th>Station Years of Data</th>
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<td>&quot;</td>
<td>&quot;</td>
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<td>Itasca</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
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<tr>
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<td>&quot;</td>
<td>&quot;</td>
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<tr>
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<td>&quot;</td>
<td>&quot;</td>
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<tr>
<td>Pronto</td>
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<td>&quot;</td>
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<tr>
<td>Richmond</td>
<td>&quot;</td>
<td>&quot;</td>
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<tr>
<td>Salvo</td>
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### Yields of Timothy Strains – Seeded 1978 and 1979

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<th>Total</th>
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<tbody>
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<td>9360</td>
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</table>

1) Seeded 1978 at Ridgetown and Ottawa.  
Seeded 1979 at Elora, Kemptville, Ottawa and Kapuskasing.

### Yields of Timothy Strains – Seeded 1979 and 1980

<table>
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<th>Entry</th>
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1) Seeded 1979 at Elora, Kemptville, Ottawa and Kapuskasing.  
Seeded 1980 at Ottawa and Thunder Bay.
### Yield (kg/ha) of Recommended Varieties

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<th>Mean 1978,'79,'80 3)</th>
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| Check Mean | 6310 | 8800 | 6480 | 9380 | 5170 | 5320 | 6340 | 2790 | 9130 |

1) Mean of 10 station-years for Cut 1 and 9 for Total.
2) Mean of 8 station-years for Cut 1 and 7 for Total.
3) Mean of 16 station-years for Cut 1 and 15 for Total.
4) Mean of 2 locations - Ottawa & Kapuskasing.
5) Data for Kapuskasing, only.
6) Checks: Timfor and Climax.
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1) Mean of 4 stations – Elora, Kemptville, Ottawa, Kapuskasing.

2) Mean of 3 stations – Elora, Ottawa, Kapuskasing.
### Timothy Variety Trial - Seeded 1980

#### Mean Yield - 1981

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<td>5680</td>
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<sup>1)</sup> Mean of 2 locations - Ottawa and Thunder Bay.

<sup>2)</sup> Cut 2 yields taken at Thunder Bay, only, so total refers only to Thunder Bay.
### Expt. 4380
#### Timothy Performance Trial. Seeded '80. Ottawa

#### Yield - 1981

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Checks: 5760

LSD 5% (Kg/ha) N.S.  
Mean (Kg/ha) 5190  
CV 20.26

### Expt. 6044

#### Yields - 1981

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Checks: 4580  
750  
5330

LSD 5% (Kg/ha) N.S.  
Mean (Kg/ha) 4600  
1080  
CV 11.41  
18.44  
9.99
### Timothy Variety Trial. Seeded 1979. Elora

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**Check Mean**

- Cut 1 (Kg/ha): 8960
- Cut 2 (Kg/ha): 1420
- Total (Kg/ha): 10,380
- LSD 5% (Kg/ha): N.S.
- Mean (Kg/ha): 9130
- CV: 14.94
- LSD 5% (Kg/ha): N.S.
- Mean (Kg/ha): 9130
- CV: 11.520
Expt. 4279  

Timothy Variety Trial. Seeded 1979. Ottawa

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Check Mean  

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LSD 5% (Kg/ha)  

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Mean (Kg/ha)  

|            | 5270         | 10,890        |

CV  

|            | 16.03        | 9.33          | 10.57         |
### Timothy Variety Trial. Seeded 1979. Kapuskasing

- **Expt. 6043**

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**Check Mean**

<table>
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<tr>
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<th>Cut 1 (Kg/ha)</th>
<th>Cut 2 (Kg/ha)</th>
<th>Total (Kg/ha)</th>
<th>Cut 1 (Kg/ha)</th>
<th>Total (Kg/ha)</th>
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<tbody>
<tr>
<td></td>
<td>4860</td>
<td>550</td>
<td>5410</td>
<td>5140</td>
<td>6960</td>
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</tbody>
</table>

**LSD 5% (Kg/ha)**

<table>
<thead>
<tr>
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<th>N.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (Kg/ha)</td>
<td>4820</td>
<td>670</td>
</tr>
<tr>
<td>CV</td>
<td>9.33</td>
<td>27.41</td>
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</table>
Expt. 4280  

<table>
<thead>
<tr>
<th>Code</th>
<th>Entry</th>
<th>Yield - Cut 1 (Kg/ha)</th>
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<tbody>
<tr>
<td>6040</td>
<td>Timfor</td>
<td>6290</td>
</tr>
<tr>
<td>6078</td>
<td>Tiiti</td>
<td>6190</td>
</tr>
<tr>
<td>6067</td>
<td>Alpage</td>
<td>6080</td>
</tr>
<tr>
<td>6072</td>
<td>LCM-8</td>
<td>6040</td>
</tr>
<tr>
<td>6074</td>
<td>K 215</td>
<td>6030</td>
</tr>
<tr>
<td>6075</td>
<td>K 216</td>
<td>5920</td>
</tr>
<tr>
<td>6069</td>
<td>Rasant</td>
<td>5720</td>
</tr>
<tr>
<td>6070</td>
<td>OC-HD-10</td>
<td>5530</td>
</tr>
<tr>
<td>6066</td>
<td>Mohawk</td>
<td>5510</td>
</tr>
<tr>
<td>6002</td>
<td>Climax</td>
<td>5380</td>
</tr>
<tr>
<td>6073</td>
<td>OG-HD-7</td>
<td>5220</td>
</tr>
<tr>
<td>6076</td>
<td>79-057</td>
<td>5090</td>
</tr>
<tr>
<td>6068</td>
<td>Phlewiola</td>
<td>4870</td>
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</table>

Check Mean 5840

LSD 5% (Kg/ha) N.S.
Mean (Kg/ha) 5680
CV 16.39
### Expt. 7138


<table>
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<tr>
<th>Code</th>
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<th>Total (Kg/ha)</th>
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<tr>
<td>6075</td>
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<td>4460</td>
<td>1260</td>
<td>5720</td>
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<tr>
<td>6069</td>
<td>Rasant</td>
<td>4440</td>
<td>1240</td>
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<tr>
<td>6066</td>
<td>Mohawk</td>
<td>4600</td>
<td>1030</td>
<td>5630</td>
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<td>6066</td>
<td>Phlewiola</td>
<td>4240</td>
<td>1280</td>
<td>5520</td>
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<tr>
<td>6002</td>
<td>Climax</td>
<td>4980</td>
<td>480</td>
<td>5460</td>
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<td>6040</td>
<td>Timfor</td>
<td>4450</td>
<td>920</td>
<td>5370</td>
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<tr>
<td>6074</td>
<td>K 215</td>
<td>4620</td>
<td>500</td>
<td>5120</td>
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<tr>
<td>6072</td>
<td>LCN-8</td>
<td>4380</td>
<td>590</td>
<td>4970</td>
</tr>
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<td>6073</td>
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<td>390</td>
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<tr>
<td>6078</td>
<td>Tiiti</td>
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<td>640</td>
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**Check Mean**

<table>
<thead>
<tr>
<th>Cut 1 (Kg/ha)</th>
<th>Cut 2 (Kg/ha)</th>
<th>Total (Kg/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4710</td>
<td>700</td>
<td>5410</td>
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</tbody>
</table>

**LSD 5% (Kg/ha)**

<table>
<thead>
<tr>
<th>Cut 1 (Kg/ha)</th>
<th>Cut 2 (Kg/ha)</th>
<th>Total (Kg/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.S.</td>
<td>480</td>
<td>N.S.</td>
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</table>

**Mean (Kg/ha)**

<table>
<thead>
<tr>
<th>Cut 1 (Kg/ha)</th>
<th>Cut 2 (Kg/ha)</th>
<th>Total (Kg/ha)</th>
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</thead>
<tbody>
<tr>
<td>4390</td>
<td>850</td>
<td>5240</td>
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**CV**

<table>
<thead>
<tr>
<th>Cut 1 (Kg/ha)</th>
<th>Cut 2 (Kg/ha)</th>
<th>Total (Kg/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.75</td>
<td>39.24</td>
<td>14.42</td>
</tr>
</tbody>
</table>
## ONTARIO FORAGE SEED SURVEY 1981 REPORT

### 1 lb. Shipped - July 1/81 to June 30/81

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Iroquois</td>
<td>431,500</td>
<td>170</td>
<td>93</td>
<td>161</td>
<td>247</td>
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<tr>
<td>Saranac</td>
<td>565,500</td>
<td>67</td>
<td>78</td>
<td>90</td>
<td>97</td>
</tr>
<tr>
<td>Vernal</td>
<td>434,900</td>
<td>73</td>
<td>57</td>
<td>59</td>
<td>44</td>
</tr>
<tr>
<td>Other public varieties</td>
<td>165,300</td>
<td>180</td>
<td>197</td>
<td>908</td>
<td>3185</td>
</tr>
<tr>
<td><strong>Total Public Varieties</strong></td>
<td>1,597,700</td>
<td>82</td>
<td>69</td>
<td>80</td>
<td>83</td>
</tr>
<tr>
<td>All Proprietary Varieties</td>
<td>1,345,200</td>
<td>108</td>
<td>122</td>
<td>177</td>
<td>172</td>
</tr>
<tr>
<td><strong>Total Pedigreed (Public + Proprietary)</strong></td>
<td>2,942,900</td>
<td>88</td>
<td>82</td>
<td>104</td>
<td>108</td>
</tr>
<tr>
<td>All Commercial Seed</td>
<td>418,900</td>
<td>96</td>
<td>103</td>
<td>95</td>
<td>80</td>
</tr>
<tr>
<td><strong>Total, All Alfalfa Seed</strong></td>
<td>3,361,800</td>
<td>90</td>
<td>86</td>
<td>102</td>
<td>104</td>
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</table>

### Red Clover

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lakeland</td>
<td>14,520</td>
<td>88</td>
<td>123</td>
<td>44</td>
<td>40</td>
</tr>
<tr>
<td>Ottawa</td>
<td>15,800</td>
<td>56</td>
<td>44</td>
<td>39</td>
<td>25</td>
</tr>
<tr>
<td>All other public + proprietary varieties</td>
<td>102,800</td>
<td>N.A.</td>
<td>N.A.</td>
<td>107*</td>
<td>92*</td>
</tr>
<tr>
<td><strong>Total, Pedigreed (Public + proprietary)</strong></td>
<td>133,100</td>
<td>70</td>
<td>173</td>
<td>143</td>
<td>119</td>
</tr>
<tr>
<td>Commercial double cut</td>
<td>814,700</td>
<td>119</td>
<td>121</td>
<td>105</td>
<td>98</td>
</tr>
<tr>
<td>Commercial single cut</td>
<td>886,200</td>
<td>93</td>
<td>119</td>
<td>138</td>
<td>174</td>
</tr>
<tr>
<td><strong>Total, Commercial Seed</strong></td>
<td>1,700,900</td>
<td>112</td>
<td>129</td>
<td>114</td>
<td>118</td>
</tr>
<tr>
<td><strong>Total, All Red Clover Seed</strong></td>
<td>1,834,000</td>
<td>110</td>
<td>123</td>
<td>115</td>
<td>118</td>
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</tbody>
</table>

* Shippings as % of 1978
** Shippings as % of 1979
### Bird's-foot Trefoil

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Empire</td>
<td>37,500</td>
<td>50</td>
<td>31</td>
<td>41</td>
<td>23</td>
<td>20</td>
</tr>
<tr>
<td>Leo</td>
<td>115,000</td>
<td>60</td>
<td>67</td>
<td>67</td>
<td>66</td>
<td>81</td>
</tr>
<tr>
<td>All other public &amp; proprietary varieties</td>
<td>12,000</td>
<td>56</td>
<td>82</td>
<td>33</td>
<td>42</td>
<td>67</td>
</tr>
<tr>
<td><strong>Total Pedigreed (Public + Proprietary)</strong></td>
<td>164,500</td>
<td>54</td>
<td>48</td>
<td>51</td>
<td>41</td>
<td>46</td>
</tr>
<tr>
<td><strong>All Commercial Seed</strong></td>
<td>143,600</td>
<td>94</td>
<td>109</td>
<td>132</td>
<td>77</td>
<td>68</td>
</tr>
<tr>
<td><strong>Total, All Trefoil Seed</strong></td>
<td>308,100</td>
<td>69</td>
<td>71</td>
<td>81</td>
<td>55</td>
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</table>

### White Clover

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Ladino</td>
<td>119,000</td>
<td>91</td>
<td>N.A.</td>
<td>33</td>
<td>82</td>
<td>99</td>
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<tr>
<td><strong>Total Pedigreed (Public + Proprietary)</strong></td>
<td>119,000</td>
<td>N.A.</td>
<td>N.A.</td>
<td>118*</td>
<td>95*</td>
<td>114*</td>
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<tr>
<td><strong>All Commercial Seed</strong></td>
<td>69,000</td>
<td>N.A.</td>
<td>N.A.</td>
<td>94*</td>
<td>73*</td>
<td>74*</td>
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<tr>
<td><strong>Total, All White Clover Seed</strong></td>
<td>188,900</td>
<td>83</td>
<td>89</td>
<td>95</td>
<td>75</td>
<td>95</td>
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### Alsike Clover

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</thead>
<tbody>
<tr>
<td><strong>Total, All Alsike Clover</strong></td>
<td>302,600</td>
<td>90</td>
<td>96</td>
<td>76</td>
<td>68</td>
<td>68</td>
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</table>

### Sweet Clover

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<tr>
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</thead>
<tbody>
<tr>
<td><strong>Total, All Sweet Clover</strong></td>
<td>145,000</td>
<td>106</td>
<td>79</td>
<td>34</td>
<td>74</td>
<td>61</td>
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</table>

* Shippings as % of 1978
<table>
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<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Timothy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climax</td>
<td>496,500</td>
<td>79</td>
<td>69</td>
<td>66</td>
<td>59</td>
<td>43</td>
</tr>
<tr>
<td>Champ</td>
<td>295,400</td>
<td>98</td>
<td>73</td>
<td>52</td>
<td>51</td>
<td>69</td>
</tr>
<tr>
<td>Basho</td>
<td>191,200</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td>244**</td>
<td>345**</td>
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<tr>
<td>Other public varieties</td>
<td>20,000</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td>1000*</td>
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<tr>
<td><strong>Total Public Varieties</strong></td>
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<td>N.A.</td>
<td>64</td>
<td>65</td>
<td>67</td>
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<tr>
<td><strong>All Proprietary Varieties</strong></td>
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<td>50</td>
<td>N.A.</td>
<td>152</td>
<td>133</td>
<td>163</td>
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<tr>
<td><strong>Total Pedigreed (Public + Proprietary)</strong></td>
<td>1,181,700</td>
<td>80</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>74</td>
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<tr>
<td><strong>All Commercial Seed</strong></td>
<td>572,300</td>
<td>114</td>
<td>115</td>
<td>88</td>
<td>74</td>
<td>64</td>
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<tr>
<td><strong>Total, All Timothy Seed</strong></td>
<td>1,754,000</td>
<td>92</td>
<td>86</td>
<td>76</td>
<td>71</td>
<td>70</td>
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<td><strong>Brome Grass</strong></td>
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<tr>
<td>Saratoga</td>
<td>55,700</td>
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<td>64</td>
<td>77</td>
<td>62</td>
<td>54</td>
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<tr>
<td>All other public &amp; proprietary varieties</td>
<td>155,100</td>
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<td><strong>Total Pedigreed (Public + Proprietary)</strong></td>
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<td>63</td>
<td>44</td>
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<td>56</td>
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<td><strong>All Commercial Seed</strong></td>
<td>323,800</td>
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<td>91</td>
<td>105</td>
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<td><strong>Total, All Brome Seed</strong></td>
<td>534,600</td>
<td>69</td>
<td>73</td>
<td>84</td>
<td>59</td>
<td>54</td>
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<tr>
<td><strong>Orchard Grass</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Public Varieties</td>
<td>9,400</td>
<td>44</td>
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<td>30</td>
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<td>27</td>
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<tr>
<td>All Proprietary Varieties</td>
<td>56,500</td>
<td>81</td>
<td>107</td>
<td>77</td>
<td>65</td>
<td>85</td>
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<td><strong>Total Pedigreed (Public + Proprietary)</strong></td>
<td>65,900</td>
<td>68</td>
<td>79</td>
<td>61</td>
<td>60</td>
<td>66</td>
</tr>
<tr>
<td><strong>All Commercial Seed</strong></td>
<td>40,100</td>
<td>76</td>
<td>93</td>
<td>71</td>
<td>56</td>
<td>40</td>
</tr>
<tr>
<td><strong>Total, All Orchard Seed</strong></td>
<td>106,000</td>
<td>72</td>
<td>86</td>
<td>66</td>
<td>58</td>
<td>53</td>
</tr>
</tbody>
</table>

* Shipping as % of 1980
** Shipments as % of 1979
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Pedigreed (Public + Proprietary)</td>
<td>0</td>
<td>0</td>
<td>N.A.</td>
<td>64</td>
<td>14</td>
<td>0</td>
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<tr>
<td>All Commercial Seed</td>
<td>13,000</td>
<td>48</td>
<td>N.A.</td>
<td>46</td>
<td>72</td>
<td>49</td>
</tr>
<tr>
<td>Total, All Reed Canary</td>
<td>13,000</td>
<td>44</td>
<td>19</td>
<td>48</td>
<td>68</td>
<td>46</td>
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</table>

<table>
<thead>
<tr>
<th>Meadow Fescue</th>
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</thead>
<tbody>
<tr>
<td>Total, All Meadow Fescue</td>
<td>31,400</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Tall Fescue</th>
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<tbody>
<tr>
<td>Total, All Tall Fescue</td>
<td>75,800</td>
</tr>
<tr>
<td>Total Seed Sales (all species)</td>
<td>8,644,992</td>
</tr>
<tr>
<td>Total Seed Sales - Big 7</td>
<td>8,025,500</td>
</tr>
</tbody>
</table>

(alfalfa, red clover, trefoil, white clover, timothy, orchard and brome grass)

N.A. Comparable figures not available each year, because of grouping of figures required by Statistics Canada regulations to preserve confidentiality.

This survey is a co-operative project between Statistics Canada, Ontario members of the Canadian Seed Trade Association, and the Ontario Forage Crops Committee.
REPORT FROM C.S.G.A.

by Don Rickard

Total inspected acres as of October 1, 1981 - including licenced, privately licenced and unlicenced varieties, to nearest '000.

1978 - 76,000 acres
1979 - 115,000
1980 - 120,000 acres
1981 - 134,000

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Timothy</td>
<td>66200</td>
<td>59700</td>
<td>63800</td>
<td>43200</td>
</tr>
<tr>
<td>Alfalfa</td>
<td>24100</td>
<td>15200</td>
<td>10400</td>
<td>7300</td>
</tr>
<tr>
<td>Red Fescue</td>
<td>17900</td>
<td>17300</td>
<td>15800</td>
<td>7600</td>
</tr>
<tr>
<td>Bromegrass</td>
<td>6500</td>
<td>5000</td>
<td>3900</td>
<td>2800</td>
</tr>
<tr>
<td>Red Clover</td>
<td>4300</td>
<td>3900</td>
<td>4300</td>
<td>3100</td>
</tr>
<tr>
<td>Bird's-foot Trefoil</td>
<td>4700</td>
<td>4500</td>
<td>4400</td>
<td>3700</td>
</tr>
</tbody>
</table>


Provinces

P. E. I.        Timothy      5
Nova Scotia     Timothy      34
                  Alfalfa     15
New Brunswick   Timothy      25
Quebec          Timothy      590
                  B. Trefoil  43
Ontario         Timothy      555
                  Red Clover  230
                  B. Trefoil  1423
                  Sainfoin    2
Manitoba        Timothy     41590
Saskatchewan    Alfalfa     5200
                  Timothy     6200
Alberta         Alfalfa     11750
                  Timothy     16000
                  Red Fescue  8500
B.C.            Red Fescue  6200
                  Timothy     2600

Total for Province

      5 Acres
      49
      25
      633
      2215
      50940
      18523
      43190
      10014
Forage Seed Production continues to be a problem.  
- Some areas which need to be looked at—seedlings establishment, pollination, disease, weed control in established stands, as well as when establishing a new crop, as well as harvesting and obtaining optimum seed production.
- There are still problems with Red Clover in all of these ways.
- There is good interest in plowdown and this should be promoted for both energy conservation and soil conservation.

Weed Control in established stands particularly where seed is to be taken from a field.

There needs to be more inspection and control of imparted seed, to give more control of disease and weeds.

Tillage Practices for the best use of energy and soil conservation, needs continuous study and research. I feel these are areas where things need to be looked at e.g. equipment, crops which make best plowdown and nitrogen fixation. Also when clover is plowed down, does more nitrogen need to be added when the break down is slower in some areas, are other nutrients tied up as well.

Waste Management
Waste management in connection with forages, what are the problems of manure on alfalfa in areas where there are no other choices.

Are there problems when liquid manure is spread on forages, and are there differences in nitrogen and phosphorous needed.

More work needs doing on ditch banks and grass water ways to give erosion control.

Hay Production is still a cash crop in many areas, but a quick system of grading and analysis are needed at the market place, so that a value can be established.

Weed Sprays
They are very useful as a tool in agriculture production and the loss of some chemicals creates problems which are not cheaply or easily solved.

Forage needs a system approach so that plants, animals and equipment can be co-ordinated for the best use.

Pasture Management and research needs more work because they are becoming more valuable through the province.

Insect Monitoring has a good start now and should be continued for forages and all agricultural crops.

Forages need a value placed on them, so they will get the place they deserve and care for better production.
Verticillium wilt of alfalfa

L.V. Busch Environmental Biology

The disease was discovered this summer in several locations in Ontario. In most cases the fields were 4 to 5 years old which would suggest that Verticillium wilt has been with us for at least this length of time. The number of diseased plants in several fields were 10% or greater and the plant stand, had declined below an economic level.

Synthetics produced from resistant plants of Ontario cultivars which survived inoculation and reinoculation have been inoculated for second generation selections. This process will continue until a sufficiently resistant variety is developed suitable for Ontario.

It is important to know what other cultivated plants and weeds could serve as hosts for Verticillium albo-atrum (alfalfa strain). The following table lists the plants tested and their reaction to Verticillium.
### Hosts of V. albo-astrum (alfalfa strain)

<table>
<thead>
<tr>
<th>Plant Tested</th>
<th>Reaction</th>
<th>Hosts of V. albo-astrum (alfalfa strain)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soybean</td>
<td>Glycine max</td>
<td></td>
</tr>
<tr>
<td>Kidney beans</td>
<td>Phaseolus vulgaris</td>
<td></td>
</tr>
<tr>
<td>White Clover</td>
<td>Trifolium repens</td>
<td></td>
</tr>
<tr>
<td>Alsike Clover</td>
<td>Trifolium hybridum</td>
<td></td>
</tr>
<tr>
<td>Peanut</td>
<td>Arachis hypogaeae</td>
<td></td>
</tr>
<tr>
<td>Ladino</td>
<td>Trifolium repens var giganteum</td>
<td></td>
</tr>
<tr>
<td>Red Clover</td>
<td>Trifolium pratense</td>
<td></td>
</tr>
<tr>
<td>Sweet Clover</td>
<td>Melilotos alba</td>
<td></td>
</tr>
<tr>
<td>Pea</td>
<td>Pissum Sativum</td>
<td></td>
</tr>
<tr>
<td>Crown Vetch</td>
<td>Coronilla varia</td>
<td></td>
</tr>
<tr>
<td>Egg plant</td>
<td>Solanum melongena</td>
<td></td>
</tr>
<tr>
<td>Tomato</td>
<td>Lycopersicon esculentum</td>
<td></td>
</tr>
<tr>
<td>Rape</td>
<td>Brassica campestris</td>
<td></td>
</tr>
<tr>
<td>Round Leaf Mallow</td>
<td>Malva rotundifolia</td>
<td></td>
</tr>
<tr>
<td>Lambs Quarters</td>
<td>Chenopodium album</td>
<td>a- stunting</td>
</tr>
<tr>
<td>Red Root Pigweed</td>
<td>Amaranthus retroflexus</td>
<td>C- stunting</td>
</tr>
<tr>
<td>Penny Cress</td>
<td>Thlaspi arvensis</td>
<td>C</td>
</tr>
<tr>
<td>Groundsel</td>
<td>Senecio vulgaris</td>
<td>C</td>
</tr>
</tbody>
</table>

**Reaction** - a severe symptoms - chlorosis - necrosis plant death

b chlorosis some necrosis of leaves - plants survive

c slight chlorosis to no symptoms
Table I. Susceptibility of recommended Ontario alfalfa cultivars to an isolate\(^1\) of *Verticillium albo-atrum* (alfalfa strain).

<table>
<thead>
<tr>
<th>Variety</th>
<th>Total # plants tested</th>
<th>Mean disease reading(^2)</th>
<th>% plants resistant(^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algonquin</td>
<td>39</td>
<td>3.9</td>
<td>7.1</td>
</tr>
<tr>
<td>Angus</td>
<td>36</td>
<td>4.4</td>
<td>5.5</td>
</tr>
<tr>
<td>Anchor</td>
<td>38</td>
<td>3.5</td>
<td>13.8</td>
</tr>
<tr>
<td>Apollo</td>
<td>99</td>
<td>3.9</td>
<td>13.9</td>
</tr>
<tr>
<td>Banner</td>
<td>71</td>
<td>3.8</td>
<td>20.9</td>
</tr>
<tr>
<td>Ceres</td>
<td>48</td>
<td>3.7</td>
<td>17.1</td>
</tr>
<tr>
<td>Citation</td>
<td>44</td>
<td>3.3</td>
<td>11.5</td>
</tr>
<tr>
<td>Iroquois</td>
<td>55</td>
<td>3.7</td>
<td>18.8</td>
</tr>
<tr>
<td>Pacer</td>
<td>47</td>
<td>3.0</td>
<td>31.0</td>
</tr>
<tr>
<td>Pickstar</td>
<td>45</td>
<td>4.0</td>
<td>0.0</td>
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<tr>
<td>Saranac</td>
<td>26</td>
<td>2.3</td>
<td>42.3</td>
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<tr>
<td>Thor</td>
<td>37</td>
<td>3.5</td>
<td>13.5</td>
</tr>
<tr>
<td>Titan</td>
<td>59</td>
<td>4.0</td>
<td>4.4</td>
</tr>
<tr>
<td>Vernal</td>
<td>61</td>
<td>3.6</td>
<td>20.9</td>
</tr>
<tr>
<td>Vista</td>
<td>60</td>
<td>4.1</td>
<td>7.1</td>
</tr>
<tr>
<td>Weeulckek</td>
<td>51</td>
<td>3.2</td>
<td>31.5</td>
</tr>
<tr>
<td>WL215</td>
<td>43</td>
<td>3.6</td>
<td>5.0</td>
</tr>
<tr>
<td>524</td>
<td>43</td>
<td>3.0</td>
<td>11.5</td>
</tr>
</tbody>
</table>

\(^1\) Culture of *Verticillium albo-atrum* used, obtained from J.W. Sheppard, Ottawa, isolated from infested Vernal alfalfa seed grown in Washington State, U.S.A.

\(^2\) Disease rating is from 0 (no disease) to 5 (plant dead).

\(^3\) Rating of 0 or 1 considered resistant.