

## ALFALFA VARIETY TRIALS

Seed was provided to the Klamath Experiment Station in 1980 for the establishment of an alfalfa variety trial. A listing of entries and seed sources is presented in Table 1. A 1.8-acre field of alfalfa and quackgrass was treated with Roundup and plowed. Eptam and Baylan at 2 and 1.13 pounds active ingredient per acre, respectively, were applied on May 28, 1981. The varieties were seeded with a cone seeder at 1/2-inch depth on June 1, 1981. The plots were 5 by 40 feet with 4 replications planted in a randomized complete block design.

The seedling stand was irrigated three times weekly as necessary to maintain adequate moisture for germination and early growth. At a height of 3 inches, the alfalfa was sprinkler irrigated with 2 inches of water in 24 hours once each week. Pigweed, lambsquarter, dandelion, mallow, and nightshade were observed in the field. Weed control was thought to be limited by an Eptam preparation which had been allowed to freeze. The weed infestation was not severe enough so as to affect the alfalfa stand. Yield data will be collected using a field chopper, subsample, and moisture correction system. Irrigation at harvest will be managed in a typical grower system where windrows are cured in the field.

Long established alfalfa variety trials were cut three times in 1980. The varieties in Tables 2 and 4 were cut on July 7, August 22, and September 30. The varieties in Table 3 were cut on July 7, August 20, and October 2. During the cutting periods, windrows were cured in the field and baled at 20 percent moisture. Sprinkler irrigation at 2 inches of water in 24 hours each week nearly replaced water lost by evapotranspiration in the fields.

The alfalfa variety yields were a departure from normal in 1980 in two ways. The average yields for each experiment were 1 ton per acre lower than the long-term average. Vernal alfalfa was the number one producer in each of the three alfalfa trials in 1980. On average, Vernal ranks near number 11 in yield in a 21-variety trial.

The variety Moapa in Table 4 was the lowest yield in each cutting. The Moapa plots contained 3 to 4 plants each and most of the yield was dandelion. The loss of stand would be expected during Klamath Falls winters for alfalfa varieties with little winter dormancy, i.e., Moapa. One of six plots of Lahontan suffered loss of stand. The comparatively low yields in cutting 1 and 2 of Tables 2 and 4 indicate Lahontan may not be suitable for Klamath Basin growers.

Table 1. Alfalfa varieties and seed source of a study established in spring of 1981

| Variety   | Source                | Variety        | Source                |
|-----------|-----------------------|----------------|-----------------------|
| Pacer     | Union Seed Co.        | WL 220         | W-L Research, Inc.    |
| Valor     |                       | WL 309         |                       |
| Action    |                       | WL 312         |                       |
| Haymaker  |                       | WL 314         |                       |
| Anchor    | N. Am. Plant Breeders | WL 318         |                       |
| Apollo    |                       | Cascade        | CENEX                 |
| Vanguard  |                       | Flemish MS-243 |                       |
| Titan     |                       | Super 721      |                       |
| Duke      |                       | Cenex C11-25   |                       |
| NAPB 89   |                       | Vernal         | Northrup King         |
| Thor      | Northrup King         | Cimarron       | Great Plains Res. Co. |
| Gladiator |                       | De Kalb 120    | Dekalb Ag. Res. Inc.  |
| 919       |                       | De Kalb 130    |                       |
| Pytor     |                       |                |                       |

Table 2. Alfalfa Dry Matter Yield, 1980, Experiment 2

| Variety      | Cutting |      |      | Total | Rank <sup>1</sup> |
|--------------|---------|------|------|-------|-------------------|
|              | 1st     | 2nd  | 3rd  |       |                   |
|              | T/A     |      |      |       |                   |
| Thor         | 2.50    | 1.79 | 0.64 | 4.93  | 11                |
| Resistador 2 | 2.05    | 1.70 | 0.66 | 4.41  | 20                |
| Gladiator    | 2.42    | 1.62 | 0.72 | 4.76  | 16                |
| Nargansett   | 2.58    | 1.87 | 0.71 | 5.16  | 6                 |
| Ranger       | 2.70    | 1.84 | 0.66 | 5.20  | 4                 |
| Vernal       | 2.87    | 2.11 | 0.66 | 5.64  | 1                 |
| Grimm        | 1.67    | 1.62 | 0.83 | 4.12  | 21                |
| Ladak        | 2.58    | 1.92 | 0.72 | 5.22  | 3                 |
| Action       | 2.24    | 1.79 | 0.77 | 4.80  | 15                |
| Valor        | 2.72    | 1.96 | 0.67 | 5.35  | 2                 |
| Pacer        | 2.54    | 1.86 | 0.59 | 4.99  | 10                |
| Haydak       | 2.53    | 1.61 | 0.56 | 4.70  | 18                |
| Rambler      | 2.51    | 1.68 | 0.47 | 4.66  | 19                |
| Haymaker     | 2.48    | 1.70 | 0.68 | 4.86  | 13                |
| Titan        | 2.41    | 1.84 | 0.67 | 4.92  | 12                |
| Lahontan     | 2.38    | 1.64 | 0.72 | 4.74  | 17                |
| Anchor       | 2.32    | 1.91 | 0.60 | 4.83  | 14                |
| Rhisoma      | 2.46    | 1.99 | 0.68 | 5.13  | 7                 |
| WL 304       | 2.48    | 1.97 | 0.73 | 5.18  | 5                 |
| WL 318       | 2.69    | 1.72 | 0.71 | 5.12  | 8                 |
| Apolo        | 2.56    | 1.73 | 0.71 | 5.00  | 9                 |

<sup>1</sup>Where total tons per acre figures are identical, ranking is based on actual pounds per acre harvested.

Table 3. Alfalfa Dry Matter Yield, 1980, Experiment 1

| Variety    | Cutting |      |      | Total | Rank <sup>1</sup> |
|------------|---------|------|------|-------|-------------------|
|            | 1st     | 2nd  | 3rd  |       |                   |
|            | T/A     |      |      |       |                   |
| Nargansett | 2.20    | 2.16 | 0.89 | 5.25  | 10                |
| Saranac    | 2.02    | 1.97 | 1.02 | 5.01  | 19                |
| Vernal     | 2.39    | 2.33 | 1.08 | 5.80  | 2                 |
| 520        | 2.28    | 2.22 | 0.86 | 5.36  | 4                 |
| 530        | 2.02    | 2.23 | 0.97 | 5.22  | 11                |
| Tempo      | 1.96    | 2.14 | 0.94 | 5.04  | 18                |
| K0-3       | 2.26    | 1.98 | 0.56 | 4.80  | 21                |
| K8-607     | 2.11    | 2.04 | 0.91 | 5.06  | 17                |
| Iroquois   | 2.20    | 2.10 | 0.89 | 5.19  | 13                |
| Arnim      | 2.14    | 2.18 | 0.95 | 5.27  | 6                 |
| Thor       | 1.98    | 2.14 | 0.98 | 5.10  | 15                |
| WL-215     | 2.07    | 2.24 | 0.84 | 5.15  | 14                |
| WL-216     | 2.18    | 2.30 | 1.03 | 5.51  | 3                 |
| WL-307     | 2.27    | 2.50 | 1.03 | 5.80  | 1                 |
| Apalachee  | 1.90    | 2.06 | 0.88 | 4.84  | 20                |
| Weevlchek  | 2.22    | 2.17 | 0.88 | 5.27  | 7                 |
| Anchor     | 2.13    | 2.16 | 0.97 | 5.26  | 9                 |
| TBX-D59    | 1.94    | 2.15 | 1.12 | 5.21  | 12                |
| Klondike   | 2.11    | 2.05 | 0.92 | 5.08  | 16                |
| Titan      | 2.08    | 2.28 | 0.91 | 5.27  | 8                 |
| Apex       | 2.20    | 2.12 | 0.96 | 5.28  | 5                 |

Table 4. Alfalfa Dry Matter Yield, 1980, Experiment 3

| Variety    | Cutting |      |      | Total | Rank <sup>1</sup> |
|------------|---------|------|------|-------|-------------------|
|            | 1st     | 2nd  | 3rd  |       |                   |
|            | T/A     |      |      |       |                   |
| Agate      | 2.51    | 1.62 | 0.67 | 4.80  | 5                 |
| Saranac    | 2.52    | 2.06 | 0.71 | 5.29  | 2                 |
| Moapa      | 1.25    | 1.62 | 0.30 | 3.17  | 11                |
| Vernal     | 2.69    | 2.06 | 0.65 | 5.40  | 1                 |
| Team       | 2.59    | 2.00 | 0.70 | 5.29  | 3                 |
| Dupuits    | 1.97    | 1.91 | 0.73 | 4.61  | 8                 |
| Lahontan   | 1.79    | 1.56 | 0.77 | 4.12  | 10                |
| Belts 72   | 2.39    | 1.84 | 0.76 | 4.99  | 4                 |
| Washoe     | 2.16    | 1.68 | 0.74 | 4.58  | 9                 |
| Apalachee  | 2.08    | 1.82 | 0.74 | 4.64  | 7                 |
| Nargansett | 2.57    | 1.55 | 0.59 | 4.71  | 6                 |

<sup>1</sup>Where total tons per acre figures are identical, ranking is based on actual pounds per acre harvested.