PR-590

# 2009 Red and White Clover Report

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## Introduction

Red clover *(Trifolium pratense L.)* is a high-quality, short-lived, perennial legume that is used in mixed or pure stands for pasture, hay, silage, green chop, soil improvement, and wildlife habitat. This species is adapted to a wide range of climatic and soil conditions. Stands of improved varieties are generally productive for two to three years, with the highest yields occurring in the year following establishment. Red clover is used primarily as a renovation legume for grass pastures. It is a dominant forage legume in Kentucky because it is relatively easy to establish and has high forage quality, high yield, and animal acceptance.

White clover *(Trifolium repens L.)* is a low-growing, perennial pasture legume with white flowers. It differs from red clover in that the stems (stolons) grow along the surface of the soil and can form adventitious roots that may lead to the development of new plants. Three types of white clover grow in Kentucky: Dutch, intermediate, and ladino. Dutch white clover, sometimes called common, naturally occurs in many Kentucky pastures and even lawns. It is generally long lived and reseeds readily, but its small leaves and low growth habit result in low forage yield. The intermediate type is a cross between ladino and Dutch white clover, and has been developed to give higher yields than the Dutch type and to persist better than the ladino type under pasture or continuous grazing conditions. Ladino white clover has larger leaves and taller growth than the intermediate and Dutch types and is the highest yielding of the three white clover types.

Yield and persistence of red and white clover varieties are dependent on environment and pressure from diseases and insects. The most common red clover diseases in Kentucky are southern anthracnose, powdery mildew, sclerotinia crown rot, and root rots. For white clover, the most common pests are stolon rots, root rots, and potato leafhoppers. High yield and persistence (as measured by percent stand) are two indications that a red or white clover variety is resistant to or tolerant of these pests when grown in Kentucky.

This report provides current yield data on red and white clover varieties included in yield trials in Kentucky as well as guidelines for selecting clover varieties. Tables 15 and 16 show a summary of all clover varieties tested in Kentucky for the past 10 years. The UK Forage Extension website at <www.uky.edu/Ag/Forage> contains electronic versions of all forage variety testing reports from Kentucky and surrounding states and a large number of other forage publications.

## Important Selection Considerations

**Local adaptation and persistence**. The variety should be adapted to Kentucky as indicated by superior performance across years and locations in replicated yield trials such as those reported in this publication. High-yielding varieties are generally also those varieties that are the most persistent. Improved red clover generally produces measurable yields for two and a half to three years, with the year of establishment considered as the first year. The highest yields occur in the year following establishment. White clover may persist longer than red clover, particularly in wet seasons, and does have the ability to reseed even under grazing.

**Seed quality**. Buy premium quality seed that is high in germination and purity and free from weed seed. Buy certified seed or proprietary seed of an improved variety. An improved variety is one that has performed well in independent trials, such as those reported in this publication. Other information on the label will include the test date, which must be within the previous nine months, the level of germination, and the amount of other crop and weed seed. Order seed well in advance of planting time to assure that it will be available when needed.

## Description of the Tests

This report summarizes studies at Lexington (two in 2008 and two in 2009), Princeton (2008 and 2009), Quicksand (sown in 2008) and Eden Shale (sown in 2008). The soils at Princeton (Crider), Lexington (Maury), Eden Shale (Nicholson) and Quicksand (Nolin) are well-drained silt loams. All are well suited to clover production. Plots were 5 by 20 feet in a randomized complete block design with four replications with a harvested plot area of 5 by 15 feet.

Seedings were made at 12 pounds of seed per acre for red clover and 3 pounds per acre for white clover into a prepared seedbed using a disk drill. The first cutting in the seeding year was delayed to allow the clover to completely reach maturity as indicated by full bloom, which generally occurs about 60 to 90 days after seeding. Otherwise, harvests were taken when the clover was in the bud to early flower stage using a sickle-type forage plot harvester. Fresh weight samples were taken at each harvest to calculate percent dry matter production. All tests for establishment, fertility, and harvest management were managed according to University of Kentucky Cooperative Extension Service recommendations. Weeds were controlled to avoid limiting production and persistence.

## Results and Discussion

Weather data for Lexington, Princeton, Quicksand and Eden Shale are presented in Tables 1 through 4.

Yield data (on a dry matter basis) are presented in Tables 5 through 12. Yields are given by cutting date and as total annual production. Varieties are listed in order from highest to lowest total produc-

**Table 1. Temperature and rainfall at Lexington, Kentucky in 2008 and 2009.**

| | 2008 | | | | 2009[2] | | | |
|---|---|---|---|---|---|---|---|---|
| | Temperature | | Rainfall | | Temperature | | Rainfall | |
| | °F | DEP[1] | IN | DEP | °F | DEP | IN | DEP |
| JAN | 32 | +2 | 3.91 | +1.05 | 29 | -2 | 4.32 | +1.46 |
| FEB | 36 | +1 | 6.11 | +2.90 | 38 | +3 | 2.53 | -.068 |
| MAR | 44 | +1 | 6.51 | +1.91 | 48 | +4 | 2.39 | -2.01 |
| APR | 55 | 0 | 5.89 | +2.01 | 56 | +1 | 4.79 | +0.91 |
| MAY | 62 | -2 | 4.33 | +0.14 | 65 | +1 | 6.04 | +1.57 |
| JUN | 74 | +2 | 3.59 | -0.07 | 74 | +2 | 5.19 | +1.53 |
| JUL | 76 | 0 | 3.41 | -1.59 | 72 | -4 | 7.57 | +2.57 |
| AUG | 75 | 0 | 2.18 | -1.75 | 73 | -2 | 4.53 | +0.60 |
| SEP | 72 | +4 | 1.42 | -1.78 | 69 | +1 | 5.90 | +2.70 |
| OCT | 57 | 0 | 1.53 | -1.04 | 53 | -4 | 5.77 | +3.20 |
| NOV | 43 | -2 | 2.53 | -0.86 | | | | |
| DEC | 35 | -1 | 6.03 | +2.05 | | | | |
| Total | | | 47.24 | +2.69 | | | 49.03 | +11.85 |

[1] DEP is departure from the long-term average.
[2] 2009 data is for the ten months through October.

**Table 2. Temperature and rainfall at Princeton, Kentucky in 2008 and 2009.**

| | 2008 | | | | 2009[2] | | | |
|---|---|---|---|---|---|---|---|---|
| | Temperature | | Rainfall | | Temperature | | Rainfall | |
| | °F | DEP[1] | IN | DEP | °F | DEP | IN | DEP |
| JAN | 37 | +3 | 2.40 | -1.40 | 33 | -1 | 0.94 | -2.86 |
| FEB | 39 | +1 | 6.76 | +2.33 | 42 | +4 | 3.28 | -1.15 |
| MAR | 48 | +1 | 7.55 | +2.61 | 53 | +6 | 2.89 | -2.05 |
| APR | 58 | -1 | 6.56 | +1.76 | 58 | -1 | 5.35 | +0.55 |
| MAY | 65 | -2 | 6.19 | +1.23 | 67 | 0 | 6.14 | +1.18 |
| JUN | 78 | +3 | 1.24 | -2.61 | 77 | +2 | 7.97 | +4.12 |
| JUL | 79 | +1 | 5.12 | +0.83 | 74 | -4 | 7.45 | +3.16 |
| AUG | 77 | 0 | 0.69 | -3.32 | 75 | -2 | 2.44 | -1.60 |
| SEP | 74 | +3 | 0.61 | -2.72 | 71 | 0 | 4.61 | +1.28 |
| OCT | 60 | +1 | 2.21 | -0.84 | 55 | -4 | 9.08 | +6.03 |
| NOV | 46 | -1 | 2.59 | -2.04 | | | | |
| DEC | 39 | 0 | 6.49 | +1.95 | | | | |
| Total | | | 48.95 | -2.18 | | | 50.12 | +8.66 |

[1] DEP is departure from the long-term average.
[2] 2009 data is for the ten months through October.

tion (for the life of the test). Experimental varieties are listed separately at the bottom of the tables and are not available commercially. Yields are given by cutting for 2009 and by year for each prior year.

Statistical analyses were performed on all clover data (including experimental varieties) to determine if the apparent differences are truly due to variety. Varieties not significantly different from the top variety within a column are marked with one asterisk (*). To determine if two varieties are truly different, compare the difference between the two varieties with the Least Significant Difference (LSD) at the bottom of the column. If the difference is equal to or greater than the LSD, the varieties are truly different when grown under the conditions at a given location. The Coefficient of Variation (CV), which is a measure of the variability of the data, is included for each column of means. Low variability is desirable, and increased variability within a study results in higher CVs and larger LSDs.

Certified Kenland continues to rank near the top of tests. It is important to note yield differences between certified and uncertified Kenland red clover. Most Kenland offered for sale is uncertified, but our tests show it is significantly lower in yield than certified Kenland. White clover varieties, as managed in these trials, yielded less than most red clover varieties but were more persistent. Again, certified seed of improved varieties is recommended.

In addition to the commercially available varieties and experimental lines, selected "common" red clovers are included in the variety tests for comparison. Common red clover, generally sold as "medium red clover variety unknown," is unimproved red clover with unknown performance. Several years of testing show only about one out of every 10 common red clovers is as productive as certified or proprietary red clovers. In Kentucky, the average yield advantage of seeding better red clovers compared to common types is 3 to 6 tons of dry matter over the life of the stand.

Tables 13 and 14 summarize information about proprietors, distributors, and yield performance across years and locations for all varieties currently included in this report. Varieties are listed in alphabetical order, with the experimental varieties at the bottom. Experimental varieties are not available for farm use, but commercial varieties can be purchased from dealerships. In Tables 13 and 14, an open block indicates that the variety was not included in that particular test

**Table 3. Temperature and rainfall at Quicksand, Kentucky in 2008 and 2009.**

| | 2008 | | | | 2009[2] | | | |
|---|---|---|---|---|---|---|---|---|
| | Temperature | | Rainfall | | Temperature | | Rainfall | |
| | °F | DEP[1] | IN | DEP | °F | DEP | IN | DEP |
| JAN | 34 | +3 | 2.07 | -1.22 | 30 | -1 | 4.81 | +1.52 |
| FEB | 38 | +5 | 3.52 | -0.08 | 40 | +7 | 1.23 | +2.37 |
| MAR | 46 | +5 | 3.62 | -0.72 | 49 | +8 | 3.61 | -0.73 |
| APR | 56 | +3 | 3.99 | -0.11 | 56 | +3 | 3.34 | -0.76 |
| MAY | 63 | +1 | 3.69 | -1.79 | 66 | +4 | 8.81 | +4.33 |
| JUN | 75 | +5 | 3.96 | +0.14 | 72 | +2 | 4.84 | +1.02 |
| JUL | 76 | +2 | 5.88 | +0.63 | 71 | -3 | 4.02 | -1.23 |
| AUG | 74 | +1 | 1.16 | -2.85 | 73 | 0 | 1.86 | -2.15 |
| SEP | 72 | +6 | 0.64 | -2.88 | 69 | +3 | 4.08 | +0.56 |
| OCT | 58 | +4 | 1.28 | -1.63 | 54 | 0 | 3.97 | +1.06 |
| NOV | 44 | +2 | 2.71 | -1.17 | | | | |
| DEC | 37 | +4 | 4.81 | +0.67 | | | | |
| Total | | | 36.33 | -11.01 | | | 40.57 | +1.25 |

[1] DEP is departure from the long-term average.
[2] 2009 data is for the ten months through October.

**Table 4. Temperature and rainfall at Eden Shale, Kentucky in 2008 and 2009.**

| | 2008 | | | | 2009[2] | | | |
|---|---|---|---|---|---|---|---|---|
| | Temperature | | Rainfall | | Temperature | | Rainfall | |
| | °F | DEP[1] | IN | DEP | °F | DEP | IN | DEP |
| JAN | 31 | +1 | 3.63 | +1.09 | 28 | -2 | 3.46 | +0.92 |
| FEB | 34 | +1 | 5.15 | +2.4 | 37 | +4 | 2.70 | -0.05 |
| MAR | 42 | -1 | 12.29 | +7.57 | 48 | +5 | 2.46 | -2.26 |
| APR | 55 | +1 | 4.04 | -0.11 | 55 | +1 | 5.88 | +1.73 |
| MAY | 61 | -2 | 6.93 | +2.52 | 65 | +2 | 6.01 | +1.60 |
| JUN | 74 | +3 | 7.20 | +3.43 | 71 | 0 | 6.72 | +2.95 |
| JUL | 75 | 0 | 3.61 | -0.92 | 70 | -5 | 6.03 | +1.50 |
| AUG | 75 | +1 | 1.97 | -1.76 | 72 | -2 | 3.41 | -0.32 |
| SEP | 71 | +3. | 1.32 | -1.87 | 67 | -1 | 4.21 | +1.02 |
| OCT | 57 | 0 | 1.86 | -1.13 | 53 | -4 | 8.15 | +5.16 |
| NOV | 43 | -2 | 2.60 | -0.95 | | | | |
| DEC | 34 | -1 | 4.53 | +1.10 | | | | |
| Total | | | 55.13 | +11.37 | | | 49.03 | +12.25 |

[1] DEP is departure from the long-term average.
[2] 2009 data is for the ten months through October.

(labeled at the top of the column), and an X in the block means that the variety was included in the test but yielded significantly less than the top-yielding variety in the test. A single asterisk (*) means that the variety was not significantly different from the highest-yielding variety based on the 0.05 LSD. Look at data from several years and locations when choosing a variety of clover rather than results from one test year as is reported in Tables 5 through 12. Make sure seed of the variety selected is properly labeled and will be available when needed.

**Tables 15 and 16 are summaries of yield data from 1998-2009 of commercial varieties that have been entered in the Kentucky trials**. The data are listed as a percentage of the mean of the commercial varieties entered in each specific trial. In other words, the mean for each trial is 100 percent—varieties with percentages over 100 yielded better than average and varieties with percentages less than 100 yielded lower than average. Direct, statistical comparisons of varieties cannot be made using the summary Tables 15 and 16, but these comparisons do help to identify varieties for further consideration. Varieties that have performed better than average over many years and at several locations have very stable performance; others may have performed very well in wet years or on particular soil types. These details may influence variety choice, and the information can be found in the yearly reports. See footnotes in Tables 15 and 16 to determine which yearly report to refer to.

## Summary

Red and white clovers can be productive components of pasture and hayfields. Choose varieties with proven performance in yield and persistence.

The following College of Agriculture publications related to the establishment, management, and harvesting of clover are available from county Extension offices or the UK Forage website, www.uky.edu/Ag/Forage.

- AGR-1—Lime and Fertilizer Recommendations
- AGR-2—Producing Red Clover Seed in Kentucky
- AGR-18—Grain and Forage Crop Guide for Kentucky
- AGR-26—Renovating Hay and Pasture Fields
- AGR-33—Growing Red Clover in Kentucky
- AGR-64—Establishing Forage Crops
- AGR-90—Inoculation of Forage Legumes
- AGR-93—Growing White Clover in Kentucky
- AGR-148—Weed Control Strategies for Alfalfa and Other Forage Legume Crops
- ENT-17—Insect Management Recommendations for Field Crops and Livestock
- PPA-10D—Kentucky Plant Disease Management Guide for Forage Legumes
- PPFS-AG-F-04—"Emergency" Inoculation for Poorly Nodulated Legumes

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**Table 5. Dry matter yields and stand persistence of red clover varieties sown April 8, 2008 at Lexington, Kentucky.**

| | Percent Stand | | | Yield (tons/acre) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2008 | 2009 | | 2008 | 2009 | | | | | | 2-year |
| Variety | Oct 21 | Mar 24 | Oct 7 | Total | May 18 | Jun 19 | Jul 20 | Aug 17 | Sep 17 | Total | Total |
| **Commercial Varieties—Available for Farm Use** | | | | | | | | | | | |
| Plus II | 86 | 86 | 78 | 0.48 | 2.09 | 1.01 | 0.72 | 0.36 | 0.38 | 4.56 | 5.05* |
| Kenton | 85 | 84 | 68 | 0.89 | 1.81 | 1.12 | 0.52 | 0.29 | 0.28 | 4.03 | 4.92* |
| Kenway | 83 | 81 | 70 | 0.93 | 1.59 | 1.06 | 0.54 | 0.36 | 0.35 | 3.91 | 4.84* |
| Cinnamon Plus | 81 | 83 | 75 | 0.65 | 1.59 | 0.91 | 0.61 | 0.37 | 0.33 | 3.81 | 4.47* |
| Freedom! MR | 68 | 70 | 68 | 0.42 | 1.48 | 1.10 | 0.61 | 0.41 | 0.43 | 4.02 | 4.44* |
| Freedom! | 69 | 69 | 30 | 0.81 | 1.54 | 1.02 | 0.38 | 0.20 | 0.16 | 3.31 | 4.11 |
| Starfire II | 65 | 65 | 60 | 0.39 | 1.45 | 0.86 | 0.61 | 0.34 | 0.28 | 3.54 | 3.93 |
| Kenland (certified) | 58 | 53 | 50 | 0.40 | 1.49 | 0.98 | 0.45 | 0.26 | 0.29 | 3.47 | 3.87 |
| Rustler | 49 | 49 | 28 | 0.45 | 1.29 | 0.80 | 0.33 | 0.25 | 0.18 | 2.84 | 3.29 |
| Common C | 78 | 76 | 15 | 0.48 | 1.54 | 0.39 | 0.16 | 0.08 | 0.03 | 2.19 | 2.67 |
| Common O | 69 | 58 | 18 | 0.64 | 1.00 | 0.57 | 0.09 | 0.05 | 0.04 | 1.76 | 2.39 |
| **Experimental Varieties** | | | | | | | | | | | |
| CW202 | 89 | 88 | 76 | 0.60 | 1.86 | 0.99 | 0.64 | 0.36 | 0.33 | 4.19 | 4.79* |
| KY Tetraploid | 66 | 64 | 60 | 0.55 | 1.58 | 1.02 | 0.80 | 0.40 | 0.43 | 4.23 | 4.78* |
| RC0501 | 71 | 71 | 53 | 0.46 | 1.75 | 0.93 | 0.61 | 0.30 | 0.29 | 3.87 | 4.34* |
| CW040040 | 74 | 75 | 66 | 0.40 | 1.69 | 0.95 | 0.56 | 0.28 | 0.26 | 3.73 | 4.14 |
| RC0601 | 74 | 66 | 38 | 0.47 | 1.62 | 0.81 | 0.48 | 0.23 | 0.20 | 3.34 | 3.81 |
| PG606 | 73 | 71 | 30 | 0.48 | 1.52 | 0.88 | 0.46 | 0.18 | 0.12 | 3.16 | 3.64 |
| B8.0083 | 69 | 65 | 28 | 0.56 | 1.56 | 0.84 | 0.34 | 0.18 | 0.13 | 3.05 | 3.61 |
| GAC1RC | 74 | 75 | 25 | 0.43 | 1.82 | 0.63 | 0.23 | 0.09 | 0.07 | 2.84 | 3.27 |
| GO-ABR | 68 | 53 | 25 | 0.32 | 0.58 | 0.69 | 0.31 | 0.18 | 0.11 | 1.88 | 2.20 |
| | | | | | | | | | | | |
| Mean | 72.0 | 70.0 | 47.9 | 0.54 | 1.54 | 0.88 | 0.47 | 0.26 | 0.23 | 3.39 | 3.93 |
| CV,% | 17.5 | 18.9 | 26.9 | 43.73 | 18.17 | 11.59 | 21.86 | 30.28 | 34.50 | 14.39 | 14.53 |
| LSD,0.05 | 17.9 | 18.7 | 18.2 | 0.34 | 0.40 | 0.14 | 0.15 | 0.11 | 0.11 | 0.69 | 0.81 |

* Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

| Table 6. Dry matter yields and stand persistence of red clover varieties sown April 17, 2008 at Princeton, Kentucky. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Percent Stand | | | | Yield (tons/acre) | | | | | | | |
| | 2008 | | 2009 | | 2008 | 2009 | | | | | | 2-year |
| Variety | May 21 | Oct 30 | Apr 17 | Oct 28 | Total | May 11 | Jun 22 | Jul 23 | Aug 22 | Sep 29 | Total | Total |
| **Commercial Varieties—Available for Farm Use** | | | | | | | | | | | | |
| Freedom! | 94 | 90 | 99 | 59 | 0.90 | 1.60 | 1.56 | 0.55 | 0.44 | 0.24 | 4.38 | 5.28* |
| Kenton | 97 | 90 | 96 | 68 | 0.77 | 1.57 | 1.60 | 0.52 | 0.45 | 0.32 | 4.46 | 5.23* |
| Starfire II | 98 | 89 | 93 | 88 | 0.81 | 1.58 | 1.51 | 0.55 | 0.43 | 0.30 | 4.37 | 5.18* |
| Robust II | 93 | 93 | 95 | 75 | 0.83 | 1.63 | 1.45 | 0.51 | 0.43 | 0.30 | 4.32 | 5.16* |
| Kenland (certified) | 99 | 86 | 93 | 63 | 0.74 | 1.31 | 1.57 | 0.60 | 0.49 | 0.34 | 4.31 | 5.05* |
| Rocket | 98 | 85 | 95 | 58 | 0.70 | 1.46 | 1.49 | 0.55 | 0.40 | 0.30 | 4.21 | 4.91* |
| Cinnamon Plus | 100 | 88 | 96 | 65 | 0.73 | 1.35 | 1.52 | 0.48 | 0.44 | 0.30 | 4.09 | 4.83* |
| Kenway | 90 | 86 | 99 | 73 | 0.68 | 1.32 | 1.58 | 0.51 | 0.43 | 0.30 | 4.14 | 4.82* |
| Dominion | 95 | 83 | 93 | 61 | 0.75 | 1.32 | 1.57 | 0.49 | 0.44 | 0.24 | 4.06 | 4.81* |
| Juliet | 87 | 93 | 97 | 48 | 0.74 | 1.49 | 1.55 | 0.50 | 0.25 | 0.19 | 3.98 | 4.71* |
| Morning Star | 95 | 85 | 94 | 50 | 0.89 | 1.43 | 1.38 | 0.34 | 0.35 | 0.20 | 3.71 | 4.60* |
| Red Gold | 83 | 83 | 93 | 38 | 0.59 | 1.35 | 1.46 | 0.48 | 0.42 | 0.14 | 3.85 | 4.44 |
| Common O | 93 | 91 | 94 | 49 | 0.68 | 1.19 | 1.52 | 0.43 | 0.35 | 0.19 | 3.69 | 4.36 |
| Kenland (uncertified) | 98 | 69 | 73 | 31 | 0.57 | 1.27 | 1.34 | 0.37 | 0.32 | 0.13 | 3.43 | 4.00 |
| **Experimental Varieties** | | | | | | | | | | | | |
| KY Tetraploid | 99 | 91 | 96 | 80 | 0.75 | 1.45 | 1.58 | 0.68 | 0.44 | 0.34 | 4.50 | 5.25* |
| RC 005 | 97 | 89 | 97 | 69 | 0.70 | 1.26 | 1.31 | 0.55 | 0.41 | 0.32 | 3.84 | 4.54* |
| RC 006 | 98 | 83 | 95 | 48 | 0.63 | 1.18 | 1.32 | 0.50 | 0.43 | 0.25 | 3.68 | 4.30 |
| | | | | | | | | | | | | |
| Mean | 95.0 | 86.5 | 93.8 | 59.9 | 0.73 | 1.39 | 1.49 | 0.51 | 0.41 | 0.26 | 4.06 | 4.79 |
| CV,% | 9.8 | 10.8 | 9.0 | 34.8 | 27.95 | 19.07 | 12.31 | 17.21 | 16.95 | 31.89 | 10.69 | 11.63 |
| LSD,0.05 | 13.2 | 13.2 | 12.0 | 29.6 | 0.29 | 0.38 | 0.26 | 0.12 | 0.10 | 0.12 | 0.62 | 0.79 |
| * Not significantly different from the highest numerical value in the column, based on the 0.05 LSD. | | | | | | | | | | | | |

| Table 7. Dry matter yields and stand persistence of red clover varieties sown April 10, 2008 at Quicksand, Kentucky. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Percent Stand | | | Yield (tons/acre) | | | | | | |
| | 2008 | 2009 | | 2008 | 2009 | | | | | 2-year |
| Variety | Nov 5 | Apr 8 | Nov 5 | Total | May 28 | Jun 29 | Jul 27 | Sep 23 | Total | Total |
| **Commercial Varieties—Available for Farm Use** | | | | | | | | | | |
| Cinnamon Plus | 99 | 99 | 67 | 1.27 | 2.19 | 1.04 | 0.48 | 0.59 | 4.30 | 5.57* |
| Freedom! | 100 | 100 | 68 | 1.34 | 1.78 | 1.12 | 0.33 | 0.75 | 3.98 | 5.32* |
| Kenland (certified) | 95 | 99 | 69 | 0.86 | 2.10 | 1.12 | 0.37 | 0.74 | 4.33 | 5.19* |
| Rustler | 92 | 94 | 19 | 1.04 | 2.05 | 1.14 | 0.21 | 0.65 | 4.05 | 5.09* |
| Starfire II | 99 | 99 | 63 | 1.07 | 1.59 | 1.05 | 0.40 | 0.83 | 3.86 | 4.93* |
| Common O | 84 | 84 | 21 | 1.28 | 1.56 | 0.75 | 0.16 | 0.70 | 3.30 | 4.76* |
| Plus II | 98 | 98 | 53 | 1.03 | 1.89 | 1.07 | 0.33 | 0.48 | 3.57 | 4.73* |
| Kenway | 99 | 100 | 76 | 1.12 | 1.73 | 1.11 | 0.32 | 0.49 | 3.61 | 4.69* |
| Kenton | 100 | 100 | 76 | 1.20 | 1.61 | 0.78 | 0.37 | 0.72 | 3.48 | 4.68* |
| **Experimental Varieties** | | | | | | | | | | |
| B8.0083 | 96 | 99 | 31 | 1.25 | 1.91 | 1.46 | 0.29 | 0.61 | 4.27 | 5.52* |
| CW 202 | 99 | 100 | 50 | 1.29 | 2.12 | 0.92 | 0.38 | 0.68 | 4.10 | 5.39* |
| RC 0501 | 99 | 100 | 65 | 1.03 | 1.82 | 1.13 | 0.40 | 0.67 | 3.95 | 5.08* |
| CW 040040 | 99 | 99 | 76 | 1.24 | 1.91 | 1.12 | 0.34 | 0.58 | 3.83 | 5.31* |
| KY Tetraploid | 90 | 93 | 78 | 0.86 | 1.89 | 0.92 | 0.42 | 0.68 | 3.95 | 4.83* |
| RC 0601 | 99 | 100 | 63 | 1.05 | 1.79 | 0.93 | 0.39 | 0.57 | 3.56 | 4.61* |
| GO-ABR | 56 | 51 | 12 | 0.45 | 1.76 | 0.99 | 0.09 | 0.27 | 3.11 | 3.45 |
| | | | | | | | | | | |
| Mean | 93.7 | 94.3 | 55.1 | 1.08 | 1.85 | 1.04 | 0.33 | 0.63 | 3.85 | 4.98 |
| CV,% | 9.7 | 9.2 | 26.2 | 34.70 | 17.18 | 25.65 | 30.34 | 44.92 | 14.34 | 14.76 |
| LSD,0.05 | 13.2 | 12.7 | 21.0 | 0.55 | 0.46 | 0.39 | 0.14 | 0.45 | 0.87 | 1.16 |
| * Not significantly different from the highest numerical value in the column, based on the 0.05 LSD. | | | | | | | | | | |

**Table 8. Dry matter yields and stand persistence of red clover varieties sown April 10, 2008 at the Eden Shale Farm near Owenton, Kentucky.**

| | Percent Stand | | | | Yield (tons/acre) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2008 | | 2009 | | 2008 | 2009 | | | | | | 2-year |
| Variety | Jun 17 | Oct 15 | Mar 24 | Oct 15 | Total | May 22 | Jun 24 | Jul 21 | Aug 24 | Sep 29 | Total | Total |
| **Commercial Varieties—Available for Farm Use** | | | | | | | | | | | | |
| Starfire II | 99 | 100 | 100 | 98 | 2.52 | 1.93 | 0.98 | 0.90 | 0.74 | 0.51 | 5.06 | 7.57* |
| Cinnamon Plus | 99 | 99 | 100 | 96 | 2.27 | 1.82 | 0.96 | 0.78 | 0.69 | 0.48 | 4.73 | 7.00* |
| Rocket | 100 | 100 | 100 | 99 | 2.24 | 1.75 | 1.00 | 0.78 | 0.73 | 0.50 | 4.75 | 7.00* |
| Dominion | 100 | 100 | 100 | 99 | 2.15 | 1.83 | 1.02 | 0.77 | 0.74 | 0.46 | 4.82 | 6.97* |
| Robust II | 97 | 98 | 100 | 99 | 2.15 | 1.82 | 0.97 | 0.78 | 0.72 | 0.50 | 4.79 | 6.93* |
| Kenland (certified) | 99 | 100 | 100 | 98 | 2.16 | 1.61 | 1.14 | 0.83 | 0.67 | 0.48 | 4.73 | 6.88 |
| RedGold | 99 | 99 | 99 | 97 | 2.27 | 1.72 | 0.94 | 0.76 | 0.70 | 0.43 | 4.56 | 6.82 |
| Freedom! | 100 | 100 | 100 | 96 | 2.15 | 1.46 | 1.10 | 0.71 | 0.65 | 0.41 | 4.33 | 6.48 |
| Juliet | 100 | 100 | 99 | 93 | 2.30 | 1.31 | 1.02 | 0.48 | 0.54 | 0.41 | 3.77 | 6.07 |
| Morning Star | 96 | 97 | 98 | 88 | 2.10 | 1.47 | 1.02 | 0.44 | 0.55 | 0.39 | 3.86 | 5.96 |
| Kenland (uncertified) | 90 | 88 | 81 | 40 | 1.64 | 1.39 | 0.92 | 0.34 | 0.50 | 0.36 | 3.51 | 5.15 |
| **Experimental Varieties** | | | | | | | | | | | | |
| RC005 | 98 | 100 | 100 | 99 | 2.34 | 1.73 | 1.00 | 0.85 | 0.76 | 0.58 | 4.91 | 7.25* |
| KY Tetraploid | 98 | 100 | 99 | 98 | 2.54 | 1.56 | 1.07 | 0.98 | 0.61 | 0.47 | 4.69 | 7.22* |
| RC006 | 99 | 100 | 100 | 98 | 2.08 | 1.72 | 0.97 | 0.76 | 0.69 | 0.48 | 4.62 | 6.70 |
| | | | | | | | | | | | | |
| Mean | 98.1 | 98.4 | 98.1 | 92.6 | 2.21 | 1.65 | 1.01 | 0.73 | 0.66 | 0.46 | 4.51 | 6.72 |
| CV,% | 3.5 | 2.9 | 5.9 | 5.2 | 11.89 | 8.74 | 8.44 | 10.99 | 13.87 | 16.50 | 6.80 | 7.06 |
| LSD,0.05 | 4.9 | 4.1 | 8.3 | 6.8 | 0.38 | 0.21 | 0.12 | 0.11 | 0.13 | 0.11 | 0.44 | 0.68 |

* Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

**Table 9. Dry matter yields, seedling vigor and stand persistence of red clover varieties sown April 2, 2009 at Lexington, Kentucky.**

| | Seedling Vigor[1] | Percent stand | | Yield (tons/acre) | | | |
|---|---|---|---|---|---|---|---|
| | | 2009 | | 2009 | | | |
| Variety | Jun 3, 2009 | Jun 3 | Oct 7 | Jul 1 | Aug 7 | Sep 17 | Total |
| **Commercial Varieties—Available for Farm Use** | | | | | | | |
| Emarwan | 4.3 | 96 | 97 | 1.32 | 1.21 | 0.99 | 3.52* |
| Cinnamon Plus | 3.8 | 98 | 99 | 1.05 | 1.38 | 1.02 | 3.46* |
| Quinequeli | 3.0 | 93 | 95 | 1.11 | 1.17 | 0.96 | 3.25* |
| Kenland (certified) | 3.1 | 91 | 99 | 0.83 | 1.22 | 1.00 | 3.04* |
| Freedom! | 4.0 | 94 | 96 | 1.03 | 0.76 | 0.95 | 2.74* |
| Wildcat | 3.0 | 94 | 98 | 0.86 | 1.04 | 0.79 | 2.69* |
| Juliet | 4.3 | 99 | 92 | 0.99 | 0.96 | 0.72 | 2.67* |
| Common O | 3.1 | 94 | 79 | 0.55 | 0.77 | 0.55 | 1.88 |
| **Experimental Varieties** | | | | | | | |
| RC9703 | 4.3 | 98 | 99 | 1.34 | 1.29 | 0.96 | 3.59* |
| GA-9908 | 3.8 | 94 | 94 | 1.30 | 1.14 | 0.87 | 3.31* |
| GA-100RC | 4.4 | 96 | 96 | 1.19 | 1.28 | 0.82 | 3.30* |
| B-8.1500 | 3.5 | 94 | 98 | 1.01 | 1.16 | 0.87 | 3.04* |
| Low Phenolic | 3.1 | 91 | 98 | 0.83 | 1.06 | 0.78 | 2.67* |
| KY Tetraploid | 3.5 | 89 | 99 | 0.81 | 0.78 | 1.00 | 2.60* |
| | | | | | | | |
| Mean | 3.6 | 94.2 | 95.5 | 1.02 | 1.09 | 0.88 | 2.98 |
| CV,% | 19.5 | 4.7 | 5.0 | 46.07 | 31.33 | 27.39 | 28.20 |
| LSD,0.05 | 1.0 | 6.3 | 6.8 | 0.67 | 0.49 | 0.34 | 1.20 |

[1] Vigor score based on a scale of 1 to 5 with 5 being the most vigorous seedling growth.
* Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

**Table 10. Dry matter yields, seedling vigor and stand persistence of red clover varieties sown April 17, 2009 at Princeton, Kentucky.**

| Variety | Seedling Vigor[1] May 12, 2009 | Percent Stand 2009 May 12 | Percent Stand 2009 Oct 28 | Yield (tons/acre) 2009 Jul 14 | Aug 22 | Sep 29 | Total |
|---|---|---|---|---|---|---|---|
| **Commercial Varieties-Available for Farm Use** | | | | | | | |
| Freedom! | 3.5 | 100 | 98 | 0.62 | 0.83 | 0.37 | 1.83* |
| Freedom! MR | 3.0 | 98 | 100 | 0.45 | 0.77 | 0.42 | 1.64* |
| Cinnamon Plus | 4.3 | 98 | 100 | 0.55 | 0.71 | 0.36 | 1.62* |
| Wildcat | 3.3 | 99 | 97 | 0.48 | 0.77 | 0.37 | 1.61* |
| Emarwan | 3.5 | 99 | 98 | 0.52 | 0.75 | 0.32 | 1.58* |
| Kenland (certified) | 3.0 | 95 | 100 | 0.43 | 0.76 | 0.36 | 1.54* |
| Kenway | 4.0 | 100 | 98 | 0.38 | 0.64 | 0.36 | 1.37 |
| Juliet | 4.0 | 99 | 85 | 0.45 | 0.62 | 0.30 | 1.37 |
| Common O | 3.8 | 100 | 88 | 0.41 | 0.54 | 0.27 | 1.22 |
| Quinequeli | 2.0 | 91 | 88 | 0.41 | 0.57 | 0.18 | 1.16 |
| Kenton | 3.3 | 100 | 99 | 0.27 | 0.50 | 0.33 | 1.11 |
| **Experimental Varieties** | | | | | | | |
| RC9703 | 4.5 | 100 | 100 | 0.65 | 0.95 | 0.40 | 2.00* |
| GA-100RC | 4.3 | 99 | 100 | 0.63 | 0.88 | 0.35 | 1.87* |
| GA-9908 | 3.8 | 100 | 96 | 0.59 | 0.80 | 0.36 | 1.75* |
| KY Tetraploid | 3.8 | 98 | 100 | 0.52 | 0.70 | 0.36 | 1.58* |
| B-8.1500 | 4.0 | 100 | 97 | 0.55 | 0.72 | 0.25 | 1.52* |
| | | | | | | | |
| Mean | 3.6 | 98.4 | 96.2 | 0.49 | 0.72 | 0.34 | 1.55 |
| CV,% | 22.9 | 2.2 | 10.6 | 28.51 | 21.96 | 27.98 | 22.62 |
| LSD,0.05 | 1.2 | 3.0 | 14.6 | 0.20 | 0.22 | 0.13 | 0.50 |

[1] Vigor score based on a scale of 1 to 5 with 5 being the most vigorous seedling growth.
* Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

**Table 11. Dry matter yields and stand persistence of white clover varieties sown April 8, 2008 at Lexington, Kentucky.**

| Variety | Percent Stand 2008 Oct 21 | Percent Stand 2009 Apr 13 | Percent Stand 2009 May22 | Percent Stand 2009 Oct 9 | Yield (tons/acre) 2008 Total | Yield (tons/acre) 2009 May 22 | Jun 15 | Jul 16 | Aug 10 | Sep 18 | Total | 2-year Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Commercial Varieties—Available for Farm Use** | | | | | | | | | | | | |
| Will | 71 | 74 | 93 | 94 | 0.51 | 0.41 | 0.55 | 0.60 | 0.63 | 0.51 | 2.70 | 3.21* |
| Patriot | 76 | 70 | 80 | 75 | 0.50 | 0.30 | 0.38 | 0.50 | 0.56 | 0.40 | 2.15 | 2.65 |
| RegalGraze | 64 | 53 | 53 | 74 | 0.48 | 0.15 | 0.32 | 0.52 | 0.59 | 0.46 | 2.05 | 2.53 |
| Regal | 53 | 30 | 24 | 56 | 0.46 | 0.07 | 0.20 | 0.43 | 0.63 | 0.49 | 1.81 | 2.27 |
| Kopu II | 60 | 34 | 35 | 75 | 0.39 | 0.06 | 0.16 | 0.45 | 0.57 | 0.49 | 1.73 | 2.13 |
| Rampart | 63 | 51 | 41 | 55 | 0.46 | 0.13 | 0.16 | 0.39 | 0.45 | 0.32 | 1.45 | 1.91 |
| Durana | 80 | 78 | 60 | 70 | 0.42 | 0.17 | 0.14 | 0.28 | 0.41 | 0.37 | 1.36 | 1.79 |
| Companion | 81 | 48 | 33 | 63 | 0.49 | 0.04 | 0.08 | 0.26 | 0.41 | 0.40 | 1.19 | 1.68 |
| **Experimental Varieties** | | | | | | | | | | | | |
| GO-ABAR | 83 | 83 | 91 | 97 | 0.74 | 0.54 | 0.60 | 0.65 | 0.77 | 0.58 | 3.14 | 3.88* |
| CW204 | 70 | 68 | 79 | 91 | 0.52 | 0.48 | 0.53 | 0.61 | 0.60 | 0.47 | 2.70 | 3.22* |
| KY Select | 88 | 90 | 96 | 96 | 0.57 | 0.48 | 0.48 | 0.54 | 0.53 | 0.42 | 2.45 | 3.02 |
| GO-7SG | 88 | 63 | 56 | 84 | 0.63 | 0.21 | 0.21 | 0.56 | 0.70 | 0.55 | 2.23 | 2.86 |
| GO-AJ | 63 | 70 | 65 | 86 | 0.53 | 0.25 | 0.27 | 0.45 | 0.50 | 0.42 | 1.90 | 2.42 |
| CW0401 | 79 | 40 | 38 | 60 | 0.75 | 0.11 | 0.23 | 0.34 | 0.50 | 0.47 | 1.66 | 2.41 |
| GO-ABC | 73 | 73 | 75 | 94 | 0.41 | 0.27 | 0.28 | 0.51 | 0.55 | 0.36 | 1.98 | 2.39 |
| B-7.1749 | 49 | 53 | 68 | 81 | 0.33 | 0.24 | 0.28 | 0.48 | 0.51 | 0.43 | 1.94 | 2.27 |
| GO-HSM | 84 | 73 | 68 | 85 | 0.45 | 0.11 | 0.19 | 0.40 | 0.54 | 0.39 | 1.63 | 2.08 |
| GO-BSG | 86 | 23 | 10 | 55 | 0.62 | 0.01 | 0.02 | 0.26 | 0.47 | 0.35 | 1.10 | 1.73 |
| B-7.1499 | 71 | 40 | 34 | 40 | 0.54 | 0.10 | 0.10 | 0.28 | 0.30 | 0.23 | 1.02 | 1.56 |
| AGRTRxA104 | 30 | 11 | 9 | 13 | 0.14 | 0.01 | 0.02 | 0.08 | 0.28 | 0.24 | 0.63 | 0.77 |
| AGRTRxA103 | 19 | 23 | 16 | 8 | 0.16 | 0.02 | 0.02 | 0.11 | 0.24 | 0.22 | 0.61 | 0.77 |
| | | | | | | | | | | | | |
| Mean | 68.8 | 53.4 | 51.5 | 65.9 | 0.47 | 0.19 | 0.24 | 0.41 | 0.51 | 0.41 | 1.76 | 2.23 |
| CV,% | 23.8 | 25.4 | 33.1 | 20.5 | 36.28 | 66.38 | 44.53 | 38.74 | 29.91 | 25.21 | 27.99 | 26.49 |
| LSD,0.05 | 23.2 | 19.2 | 24.1 | 19.1 | 0.24 | 0.18 | 0.15 | 0.22 | 0.22 | 0.15 | 0.70 | 0.84 |

* Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

**Table 12. Dry matter yields, seedling vigor and stand persistence of white clover varieties sown April 2, 2009 at Lexington, Kentucky.**

| Variety | Seedling Vigor[1] Jun 3, 2009 | Percent Stand 2009 Jun 3 | Percent Stand 2009 Oct 7 | Yield (tons/acre) 2009 Jul 1 | Yield (tons/acre) 2009 Aug 7 | Yield (tons/acre) 2009 Sep 18 | Yield (tons/acre) 2009 Total |
|---|---|---|---|---|---|---|---|
| **Commercial Varieties—Available for Farm Use** | | | | | | | |
| Regal | 4.8 | 98 | 100 | 0.64 | 0.73 | 0.89 | 2.27* |
| RegalGraze | 4.3 | 98 | 100 | 0.52 | 0.59 | 0.69 | 1.80* |
| Kopu II | 3.5 | 95 | 100 | 0.47 | 0.65 | 0.67 | 1.79* |
| Will | 3.3 | 98 | 100 | 0.46 | 0.63 | 0.67 | 1.76* |
| Patriot | 3.5 | 97 | 100 | 0.46 | 0.60 | 0.67 | 1.72* |
| Rampart | 2.8 | 96 | 99 | 0.34 | 0.56 | 0.71 | 1.61 |
| Companion | 3.3 | 96 | 98 | 0.43 | 0.48 | 0.56 | 1.47 |
| Durana | 2.1 | 94 | 94 | 0.25 | 0.47 | 0.56 | 1.28 |
| **Experimental Varieties** | | | | | | | |
| CW0401 | 5.0 | 99 | 100 | 0.78 | 0.71 | 0.84 | 2.33* |
| CW204 | 4.1 | 98 | 99 | 0.63 | 0.78 | 0.92 | 2.33* |
| GO-7SG | 3.8 | 96 | 100 | 0.52 | 0.68 | 0.93 | 2.12* |
| CW040041 | 3.5 | 94 | 97 | 0.56 | 0.66 | 0.75 | 1.98* |
| B-8.1485 | 2.5 | 89 | 94 | 0.38 | 0.69 | 0.66 | 1.72* |
| KYSelect | 2.4 | 93 | 95 | 0.40 | 0.63 | 0.69 | 1.72* |
| GO-ABAR | 3.3 | 95 | 100 | 0.41 | 0.62 | 0.63 | 1.67 |
| GO-HSM | 2.8 | 97 | 98 | 0.41 | 0.55 | 0.60 | 1.56 |
| B-7.1499 | 2.8 | 93 | 91 | 0.39 | 0.50 | 0.61 | 1.50 |
| GO-BSG | 3.1 | 95 | 97 | 0.38 | 0.51 | 0.61 | 1.50 |
| GO-ABC | 3.3 | 96 | 98 | 0.35 | 0.55 | 0.56 | 1.46 |
| GO-AJ | 3.0 | 96 | 97 | 0.35 | 0.45 | 0.54 | 1.34 |
| B-7.1749 | 1.5 | 80 | 90 | 0.23 | 0.48 | 0.52 | 1.23 |
| AGRTRxA103 | 1.0 | 58 | 63 | 0.19 | 0.37 | 0.64 | 1.20 |
| KYSelect2 | 2.1 | 95 | 85 | 0.28 | 0.46 | 0.45 | 1.18 |
| AGRTRxA104 | 1.3 | 71 | 71 | 0.21 | 0.34 | 0.56 | 1.12 |
| | | | | | | | |
| Mean | 3.0 | 92.3 | 94.2 | 0.42 | 0.57 | 0.66 | 1.65 |
| CV,% | 21.9 | 6.7 | 6.2 | 47.08 | 19.76 | 31.44 | 27.76 |
| LSD,0.05 | 0.9 | 8.7 | 8.3 | 0.28 | 0.16 | 0.29 | 0.65 |

[1] Vigor score based on a scale of 1 to 5 with 5 being the most vigorous seedling growth.
* Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

| Table 13. Performance of red clover varieties across years and locations. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Lexington | | | Eden Shale | | Princeton | | | Quicksand | |
| | Proprietor/KY | 2008[1] | | 2009 | 2008 | | 2008 | | 2009 | 2008 | |
| Variety | Distributor | 08[2] | 09 | 09 | 08 | 09 | 08 | 09 | 09 | 08 | 09 |
| **Commercial Varieties—Available for Farm Use** | | | | | | | | | | | |
| Cinnamon Plus | FFR/Southern States | * | x[3] | * | * | * | * | * | * | * | * |
| Common C | Public | x | x | | | | | | | | |
| Common O | Public | * | x | x | | | * | x | x | * | x |
| Dominion | Seed Research of Oregon | | | | x | * | * | * | | | |
| Emarwan | Rose-AgriSeed | | | * | | | | | * | | |
| Freedom! | Barenbrug | * | x | * | x | x | * | * | * | * | * |
| Juliet | Caudill Seed Company | | | * | * | x | * | * | x | | |
| Kenland, certified | KY Agric. Exp. Station | x | x | * | x | * | * | * | * | * | * |
| Kenland, uncertified | Public | | | | x | x | x | x | | | |
| Kenton (KNARS) | KY Agr. Exp. Station | * | * | | | | * | * | x | * | * |
| Kenway (KVMRS) | KY Agr. Exp. Station | * | * | | | | * | * | x | * | * |
| Morning Star | Cal/West Seeds | | | | x | x | * | x | | | |
| Plus II | Allied Seed, L.L.C. | x | * | | | | | | | * | * |
| Quinequeli | Caudill Seed Company | | | * | | | | | x | | |
| Red Gold | Pro Seeds Marketing | | | | * | x | x | x | | | |
| Robust II | Seed Research of Oregon | | | | x | * | * | * | | | |
| Rocket | Seed Research of Oregon | | | | * | * | * | * | | | |
| Rustler | Oregro Seeds | x | x | | | | | | | * | * |
| Starfire II | Cal/West & Ampac Seed | x | x | | * | * | * | * | | * | * |
| Wildcat | Brett Young Seeds | | | * | | | | | * | | |
| **Experimental Varieties** | | | | | | | | | | | |
| B8.0083 | Blue Moon Farms | x | x | | | | | | | * | * |
| B-8.1500 | Blue Moon Farms | | | * | | | | | * | | |
| CW 040040 | Cal/West Seeds | x | x | | | | | | | * | * |
| CW 202 | Cal/West Seeds | * | * | | | | | | | * | * |
| Freedom! MR | KY Agr. Exp. Station | x | * | | | | | | * | | |
| GA100-RC | Univ. of Georgia | | | * | | | | | * | | |
| GA-9908 | Univ. of Georgia | | | * | | | | | * | | |
| GAC1RC | AgResearch,USA | x | x | | | | | | | | |
| GO-ABR | Grasslands Oregon | x | x | | | | | | | x | x |
| KY Low phenolic | KY Agr. Exp. Station | | | * | | | | | | | |
| KY Tetraploid | KY Agr. Exp. Station | x | * | * | * | * | * | * | * | * | * |
| PG 606 | AgResearch,USA | x | x | | | | | | | | |
| RC 005 | FFR/Southern States | | | | * | * | * | x | | | |
| RC 006 | FFR/Southern States | | | | x | * | * | x | | | |
| RC 0501 | FFR/Southern States | x | * | | | | | | | * | * |
| RC 0601 | FFR/Southern States | x | x | | | | | | | * | * |
| RC 9703 | Lewis Seed | | | * | | | | | * | | |

[1] Establishment year
[2] Harvest year
[3] X in the box indicates the variety was in the test but yielded significantly less than the top variety in the test. Open boxes indicate the variety was not in the test.
* Not significantly different from the top-ranked red clover variety in the test.

| Table 14. Performance of white clover varieties across years. | | | | | |
|---|---|---|---|---|---|
| | | | Lexington | | |
| | | | 2008[1] | | 2009 |
| Variety | Type | Proprietor/KY Distributor | 08[2] | 09 | 09 |
| **Commercial Varieties—Available for Farm Use** | | | | | |
| Companion | Ladino | Oregro Seeds, Inc. | x[3] | x | x |
| Durana | Intermediate | Pennington | x | x | x |
| Kopu II | Intermediate | Ampac Seed Co | x | x | * |
| Patriot | Intermediate | Pennington | x | x | * |
| Rampart | Ladino | Allied Seed, L.L.C. | x | x | x |
| Regal | Ladino | Public | x | x | * |
| RegalGraze | Ladino | Cal/West Seeds | x | x | * |
| Will | Ladino | Allied Seed, L.L.C. | x | * | * |
| **Experimental Varieties** | | | | | |
| B-8.1485 | Intermediate | Blue MoonFarms | | | * |
| B-7.1499 | – | Blue MoonFarms | * | x | x |
| B-7.1749 | – | Blue MoonFarms | x | x | x |
| CW 040041 | Ladino | Cal/West Seeds | | | * |
| CW 0401 | Ladino | Cal/West Seeds | * | x | * |
| CW 204 | Ladino | Cal/West Seeds | * | * | * |
| GO-ABAR | Ladino | Grasslands Oregon | * | * | x |
| GO-ABC | Intermediate | Grasslands Oregon | x | x | x |
| GO-AJ | Intermediate | Grasslands Oregon | * | x | x |
| GO-BSG | Intermediate | Grasslands Oregon | * | x | x |
| GO-HSM | Intermediate | Grasslands Oregon | x | x | x |
| GO-7SG | Ladino | Grasslands Oregon | * | x | * |
| KY Select | Intermediate | KY Agr. Exp. Station | * | * | * |

[1] Establishment year
[2] Harvest year
[3] X in the box indicates the variety was in the test but yielded significantly less than the top variety in the test. Open boxes indicate the variety was not in the test.
* Not significantly different from the top-ranked white clover variety in the test.

**Table 15. Summary of Kentucky Red Clover Yield Trials 1998-2009 (yield shown as a percentage of the mean of the named commercial varieties in the trial).**

| | | Lexington | | | | | | | | Princeton | | | | | Quicksand | | | | | Eden Shale | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 00[1,2] | 00 | 01 | 02 | 03 | 04 | 06 | 08 | 99 | 00 | 03 | 05 | 08 | 98 | 01 | 03 | 05 | 08 | 00 | 03 | 08 | Mean[3] |
| Variety | Proprietor | 3yr[4] | 3yr | 3yr | 3yr | 3yr | 3yr | 2yr | 2yr | 3yr | 3yr | 3yr | 2yr | 2yr | 3yr | 2yr | 2yr | 3yr | 2yr | 3yr | 2yr | 2yr | (#trials) |
| AA117ER | ABI Alfalfa | | | | | | | 110 | | | | | 87 | | | | | 92 | | | | | 96(3) |
| Acclaim | Allied Seed | | | | 92 | | | | | | | | | | | | | | | | | | – |
| Arlington | WI Agr. Exp.Sta. | | | | 72 | | | | | | | | | | | | | | | | | | – |
| Belle | Agribiotech | 88 | | | 82 | | | | | 93 | | | | | | | | | | | | | 88(3) |
| Cherokee | FL Agr. Exp. Sta. | 78 | | | 65 | | | | | | | | | | | | | | | | | | 72(2) |
| Cinnamon | FFR/Sou.St. | 111 | | | 108 | | | | | 115 | | | | | 100 | | | | | | | | 109(4) |
| Cinnamon Plus | FFR/Sou.St. | | | | | 97 | | 109 | 112 | | | | 112 | 100 | | | | 103 | 110 | | | 106 | 106(8) |
| Dominion | Seed Research of OR | | | | | | | 102 | | | | | 95 | 100 | | | | 93 | | | | 105 | 99(5) |
| Duration | Cisco Co. | | | 86 | 100 | | | | | | | | | | | 106 | | | | | | | 97(3) |
| Emarwan | Turf-Seed | | | | | | 91 | | | | | | | | | 101 | | | | | | | 96(2) |
| Freedom! | Barenbrug | 108 | 105 | 127 | 123 | 96 | 118 | 91 | 103 | 103 | 105 | 110 | 136 | 110 | 109 | 111 | 103 | 119 | 105 | 102 | 102 | 98 | 109(21) |
| Freedom!MR | Barenbrug | | | | 118 | 115 | 102 | 114 | 111 | | | 106 | 101 | | | | 94 | 111 | | | 118 | | 109(10) |
| FSG 9601 | Allied Seed | | | | | | 89 | | | | | | | | | | | | | | | | – |
| Greenstar | Genesis Turf | | | | | | | | | | | | | | 100 | | | | | | | | – |
| Impact | Specialty Seeds | 106 | 97 | | | | | | | | 98 | | | | | | | | | | | | 100(3) |
| Juliet | Caudill Seed | | | | | | | | | | | | | 98 | | | | | | | | 92 | 95(2) |
| Kenland (cert.) | KY Ag.Exp Sta. | 110 | 111 | 127 | 139 | 118 | 117 | 117 | 97 | 117 | 104 | 102 | 92 | 105 | 112 | 111 | 88 | 105 | 103 | 104 | 98 | 104 | 109(21) |
| Kenland (uncert) | Public | | | | | | | | | | | | | 83 | 78 | 83 | | | | | | 78 | 81(4) |
| Kenstar | KY Ag.Exp Sta. | | 105 | | | | | | | | 104 | | | | 107 | | | | | | | | 105(3) |
| Kenton | KY Ag.Exp Sta. | 100 | 93 | 119 | 109 | 90 | 95 | 112 | 123 | 104 | 98 | 95 | 105 | 109 | | 93 | 99 | 106 | 93 | 102 | 98 | | 102(19) |
| Kenway | KY Ag.Exp Sta. | 106 | 104 | 111 | 134 | | 97 | 119 | 121 | 103 | 100 | | 94 | 100 | | 100 | | 103 | 93 | 102 | | | 106(15) |
| Mammoth | Public | | | | | | | | | 61 | | | | | | | | | | | | | – |
| Morning Star | Cal/West Seeds | | | | | | | | | | | | | 96 | | | | | | | | 90 | 93(2) |
| Plus | Allied Seed | 113 | | | 113 | | | | | 110 | | | | | | | | | | 97 | | | 108(4) |
| Plus II | Allied Seed | | | | | | | | 126 | | | | | | | | | | 94 | | | | 110(2) |
| Prima | Public | 92 | | | 74 | | | | | | | | | | | | | | | | | | 83(2) |
| Red Gold | Proseeds Marketing | | | | | | | 81 | | | | | | 92 | | | | | | | | 103 | 92(3) |
| Red Gold Plus | Turner Seed | | 97 | 97 | | | 95 | | | | 95 | | | | | 98 | | | | 98 | | | 97(6) |
| RedlanGraze | ABI Alfalfa | 95 | | | | | | | | 101 | | | | | | | | | | | | | 98(2) |
| RedlanGraze II | Americas Alfalfa | | | 91 | 104 | | | | | | | | | | | 93 | | | | | | | 96(3) |
| Redland Max | ABI Alfalfa | | | | | | 95 | | | | | | | | | | | | | | | | – |
| Redstart | Syngenta | 102 | | | 78 | | | | | | | | | | | | | | | | | | 90(2) |
| Robust | Scott Seed | 92 | | | | | | | | | | | | | | | | | | | | | – |
| Robust II | Seed Research of OR | | | | | | | | | | | | | 107 | | | | | | | | | – |
| Rocket | Seed Research of OR | | | | | | | | | | | | | 102 | | | | | | | | 106 | 104(2) |
| Rojo Diablo | Great Plains | | | 99 | | | | | | | | | | | | 101 | | | | | | | 100(2) |
| Royal Red | FFR/Sou.St. | 108 | 92 | | 91 | | | | | 79 | | | | | | | | | | 96 | | | 93(5) |
| Rustler | Oregro Seeds | | | | | | | | 82 | | | | | | | | | | 101 | | | | 92(2) |
| Scarlet | Dairyland | 95 | | | | | | | | | | | | | | | | | | | | | – |
| Sienna | Great Plains | | | 91 | | | | | | | | | | | | 106 | | | | | | | 99(2) |
| Solid | Production Service | 97 | 102 | | 98 | 84 | | 79 | | 112 | 98 | 87 | 86 | | 94 | | | 76 | | 105 | 84 | | 92(13) |
| Starfire | Ampac Seed | 97 | 93 | | 99 | | | | | | 98 | | | | | | | | | 95 | | | 96(5) |
| Starfire II | Cal/West & Ampac | | | | | | | | 98 | | | | | 108 | | | | | 98 | | | 114 | 105(4) |
| Triple Trust 350 | ABI Alfalfa | | | | | | | 101 | | | | | 92 | | | | | 92 | | | | | 95(3) |
| Vesna | DLF-Jenks | | | 53 | | | | | | | | | | | | 96 | | | | | | | 75(2) |

[1] Year trial was established.
[2] Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year of each specific trial. For example, the Lexington trial planted in 2000 was harvested 3 years, so the final report would be "2002 Red and White Clover Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.
[3] Mean only presented when respective variety was included in two or more trials.
[4] Number of years of data.

**Table 16. Summary of Kentucky White Clover Yield Trials 1998-2009 (yield shown as a percentage of the mean of the commercial varieties in the trial.**

| | | | Lexington | | | | | | Princeton | | Quicksand | | Eden Shale | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 02[1,2] | 03 | 04 | 06 | 07 | 08 | 03 | 05 | 98 | 03 | 03 | Mean[3] |
| Variety | Type | Proprietor | 3yr[4] | 3yr | 3yr | 2yr | 2yr | 2yr | 3yr | 3yr | 3yr | 2yr | 2yr | (#trials) |
| Advantage | Ladino | Allied Seed, L.L.C. | | 125 | | | | | | | | | 106 | 116(2) |
| Alice | Intermediate | Barenbrug | | | | | | | | 86 | | | | – |
| Avoca | Dutch | DLF International Seeds | | | | 59 | | | | 82 | | | | 71(2) |
| Barblanca | Intermediate | Barenbrug | | 92 | | | | | | | | | | – |
| CA ladino | Ladino | Public | 100 | | 124 | | | | 103 | | 100 | 98 | | 105(5) |
| Colt | Intermediate | Seed Research of OR | | 90 | | 57 | | | | 114 | | | | 87(3) |
| Common | Dutch | Public | 100 | | | | 53 | | | 78 | | | | 77(3) |
| Companion | Ladino | Oregro Seeds | | | | | | 74 | | | | | | |
| Crescendo | Ladino | Cal/West Seeds | 105 | | | 140 | | | | 109 | | | | 118(3) |
| Excel | Ladino | Allied Seed, L.L.C. | | | 100 | | | | | | | | | – |
| Durana | Intermediate | Pennington | | 94 | | 94 | 88 | 79 | 87 | 83 | | 101 | 95 | 92(7) |
| Insight | Ladino | Allied Seed, L.L.C. | | | | 128 | | | | | | | | – |
| Ivory | Intermediate | Cebeco | 96 | | | | | | | | | | | – |
| Ivory II | Intermediate | DLF International Seeds | | | | | 86 | | | | | | | – |
| Jumbo | Ladino | Ampac Seed | 93 | | | | | | | | | | | – |
| Kopu II | Intermediate | Ampac Seed | 97 | | | 97 | 95 | 94 | | | | | | 96(3) |
| Patriot | Intermediate | Pennington | | 103 | | 87 | 104 | 117 | 104 | 100 | | 98 | 99 | 99(7) |
| Pinnacle | Ladino | Allied Seed, L.L.C. | | | | 120 | | | | 111 | | | | 116(2) |
| Rampart | Ladino | Allied Seed, L.L.C. | | | | | 80 | 84 | | | | | | – |
| Regal | Ladino | Public | 99 | 96 | 92 | | 125 | 100 | 107 | 100 | 100 | 104 | | 103(8) |
| RegalGraze | Ladino | Cal/West Seeds | | | | 127 | 140 | 111 | | | | | | 134(2) |
| Resolute | Intermediate | FFR/Southern States | | | | 63 | | | | | | | | – |
| Seminole | Ladino | Saddle Butte Ag. Inc | | | 108 | 70 | 79 | | | | | | | 86(3) |
| Super Haifa | Intermediate | Allied Seed, L.L.C. | | | 77 | | | | | | | | | – |
| Tillman II | Ladino | Caudill Seed | 103 | | | | | | | | | | | – |
| Will | Ladino | Allied Seed, L.L.C. | 107 | | | 162 | 150 | 141 | | 136 | | | | 139(4) |

[1] Year trial was established.
[2] Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year of each specific trial. For example, the Lexington trial planted in 2002 was harvested 3 years, so the final report would be "2004 Red and White Clover Report" archived in the KY Forage website at <www.uky.edu/Ag/Forage>.
[3] Mean only presented when respective variety was included in two or more trials.
[4] Number of years of data.



12-2009