# 2022 Red and White Clover Report



G.L. Olson, S.R. Smith, C.D. Teutsch, and J.C. Henning, Plant and Soil Sciences

## Introduction

PR-816

Red clover (*Trifolium pratense L.*) is a high-quality, short-lived perennial legume 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 generally are productive for 2½ to 3 years, with the highest yields occurring in the year following establishment. Red clover is used primarily as a renovation legume for grass pastures and hay fields. It is a dominant forage legume in Kentucky because it is relatively easy to establish and has high forage quality, 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 lead to the development of new plants. Three types of white clover

		20	)20			20	21			20	22 <sup>2</sup>	
	Temp	erature	Ra	ainfall	Tempe	erature	Ra	infall	Tempe	erature	Ra	infall
	°F	DEP <sup>1</sup>	IN	DEP	°F	DEP	IN	DEP	°F	DEP	IN	DEP
JAN	40	+9	3.72	+0.86	34	+3	4.51	+1.65	29	-2	4.93	+2.07
FEB	38	+3	5.14	+1.93	31	-4	4.60	+1.39	38	+3	7.69	+4.48
MAR	51	+7	3.79	-0.61	50	+6	5.12	+0.72	49	+5	4.27	-0.13
APR	52	-3	4.92	+1.04	54	-1	2.72	-1.16	55	0	3.71	-0.17
MAY	62	-2	5.69	+1.22	62	-2	4.34	-0.13	69	+5	3.84	-0.63
JUN	72	0	2.56	-1.10	73	+1	6.26	+2.60	76	+4	2.10	-1.56
JUL	79	+3	3.23	-1.77	75	-1	5.90	+0.90	80	+4	6.46	+1.46
AUG	75	0	3.41	-0.52	76	+1	6.16	+2.23	77	+2	4.27	+0.34
SEP	68	0	4.43	-+0.83	69	+1	3.03	-0.17	70	+2	1.50	-1.70
OCT	57	0	4.98	+2.41	62	+5	4.64	+2.10	57	0	0.96	-1.61
NOV	49	+4	2.18	-1.21	43	-2	2.13	-1.26				
DEC	36	0	2.27	-1.71	47	+11	4.41	+0.43				
Total			45.92	+1.37			53.85	+9.30			39.73	+2.55

<sup>1</sup>DEP is departure from the long-term average. <sup>2</sup>2022 data is for ten months through October.

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 frequent or continuous grazing conditions. Ladino white clover has larger leaves and taller growth than the intermediate and

	Seedling			Pe	rcent Sta	nd					Yiel	d (tons/a	cre)		
Variety	Vigor <sup>1</sup>	20	20	20	21		2022		2020	2021		20	22		3-year
	June 3, 2020	Jun 3	Sep 24	Mar 24	Sep 29	Mar 22	Jul 12	Aug 15	Total	Total	May 13	Jun 14	Jul 12	Total	Total
<b>Commercial Varieties</b>	-Available for Fa	arm Use													
Freedom!	4.3	100	100	99	97	94	89	60	2.71	7.48	1.08	1.00	0.29	2.37	12.56*
SS0303RCG	3.9	100	100	100	96	92	91	50	2.78	7.45	1.05	0.73	0.30	2.07	12.30*
Gallant	3.8	96	97	97	96	91	83	53	2.55	7.67	0.85	0.70	0.25	1.80	12.01*
Kenland (certified)	3.9	98	98	99	94	88	69	25	2.72	6.92	1.09	0.78	0.24	2.10	11.74*
Blaze	4.6	98	98	98	97	93	90	51	2.46	7.18	0.96	0.77	0.25	1.98	11.62*
GA9908	3.9	96	96	98	88	74	56	11	2.83	6.90	0.96	0.64	0.20	1.81	11.54
Robust III	3.3	97	97	98	92	84	71	35	2.43	6.63	0.84	0.70	0.20	1.75	10.82
Renegade	4.6	100	100	100	79	53	26	3	2.69	6.93	0.64	0.46	0.10	1.20	10.81
Redkin	2.5	45	53	53	68	53	60	25	1.76	6.89	0.83	0.51	0.22	1.57	10.21
Barduro	4.0	100	99	99	60	20	2	2	2.40	5.93	0.30	0.21	0.00	0.51	8.84
Rustler	4.5	100	100	100	30	18	6	2	2.16	6.00	0.31	0.24	0.02	0.57	8.73
Common O	4.8	99	98	98	20	13	5	1	2.07	5.92	0.25	0.22	0.06	0.52	8.52
<b>Experimental Varieti</b>	es														
CW040040	3.9	97	98	98	96	93	91	51	2.78	7.69	1.15	0.89	0.26	2.30	12.78*
ISTP12	4.5	100	100	100	94	76	51	11	2.97	6.96	1.00	0.75	0.19	1.94	11.86*
BARTP10	3.6	97	97	97	96	71	78	36	2.41	7.00	0.82	0.78	0.22	1.82	11.24
GATP1412	2.3	77	87	91	88	76	48	19	2.35	7.29	0.83	0.54	0.16	1.54	11.17
CW30091	2.3	83	86	90	83	63	55	20	2.22	7.16	0.72	0.64	0.18	1.54	10.92
GATP1403	-	-	25	28	26	25	33	14	1.32	6.17	0.72	0.36	0.14	1.22	9.67
Mean	3.8	94	90	91	78	65	56	26	2.45	6.90	0.80	0.61	0.18	1.59	11.00
CV,%	15.0	6	4	4	11	16	24	43	13.66	8.18	23.62	22.83	25.82	18.61	7.61
LSD,0.05	0.8	9	6	5	13	14	19	16	0.49	0.80	0.27	0.20	0.07	0.42	1.22

<sup>1</sup>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.

Agricultural Kentucky Tobacco Research and Development Center | Veterinary Diagnostic Laboratory | Division of Regulatory Services | Research and Education Center Experiment Station Robinson Forest | Robinson Center for Appalachian Resource Sustainability | University of Kentucky Superfund Research Center | Equine Programs

	Seedling	Percen	t Stand		Yield (to	ns/acre)	
Variety	Vigor <sup>1</sup>	20	22		20	22	
	May 25, 2022	May 25	Sep 22	Jul 12	Aug 12	Sep 15	Total
<b>Commercial Varieties-A</b>	vailable for Farm Use						
Freedom!	4.1	97	96	1.16	1.08	0.64	2.88*
Gallant	3.5	97	98	1.06	1.03	0.67	2.76*
Kenland (certified)	4.3	99	98	1.01	0.95	0.63	2.58*
GA9908	3.5	96	96	1.09	0.93	0.55	2.56*
SS0303RCG	3.8	93	98	0.98	0.95	0.62	2.54*
Common O	4.1	98	96	0.81	0.86	0.46	2.13
Blaze	3.9	98	96	0.75	0.72	0.54	2.01
<b>Experimental Varieties</b>							
BARTP10	3.8	98	98	1.07	1.01	0.61	2.69*
20-LA-RC-1	3.6	96	96	1.05	1.01	0.55	2.61*
CW040040	4.0	98	98	0.90	0.96	0.57	2.44*
RC08	3.5	97	99	0.89	0.90	0.56	2.35*
ISTP12	4.0	98	98	0.82	0.94	0.57	2.33*.
BARTPV23	3.6	96	96	0.77	0.80	0.50	2.07
BY-RC31	4.3	98	98	0.76	0.76	0.47	1.99
GA-RXS	3.6	97	97	0.67	0.71	0.48	1.86
CW30091	2.6	58	60	0.73	0.64	0.43	1.80
PSTCLVR20825	2.8	88	89	0.40	0.75	0.39	1.54
GATP1412	2.3	68	73	0.58	0.52	0.39	1.49
BARTSRWR	2.5	91	91	0.53	0.55	0.37	1.46
PSTCLVR98121	3.5	95	96	0.44	0.61	0.37	1.42
Mean	3.4	89	89	0.80	0.81	0.50	2.11
CV,%	21.8	7	6	28.42	26.66	23.46	25.23
LSD,0.05	1.1	9	7	0.32	0.30	0.17	0.75

<sup>1</sup>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.

Dutch types and is the highest yielding of the three white clover types but requires rotational grazing to maintain stands. Information on the grazing tolerance of white clover varieties can be found in the 2022 Alfalfa, Red Clover and White Clover Grazing Tolerance Report (PR-822).

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 specific red or white clover variety is resistant to or tolerant of these pests when grown in Kentucky.

This report provides current yield and persistence data on red and white clover

varieties included in yield trials in Kentucky as well as guidelines for selecting clover varieties. Tables 7 and 8 show a summary of all clover varieties tested in Kentucky for the past 16 years. The UK Forage Extension website (https://forages.ca.uky.edu) contains electronic versions of all forage variety testing reports from Kentucky and surrounding states and a large number of other forage publications.

	Seedling			Percen	t Stand					Yie	ld (tons/ad	re)		
Variety	Vigor <sup>1</sup>	20	20	20	21	20	22	2020	2021		20	22		3-year
	June 3, 2020	Jun 3	Sep 24	Mar 24	Sep 29	May 4	Sep 22	Total	Total	May 25	Aug 12	Sep 15	Total	Total
Commercial V	arieties-Availabl	e for Farm	Use											
Will	3.8	96	97	98	100	95	95	1.78	4.75	0.66	0.46	0.24	1.36	7.88*
RegalGraze	4.6	98	99	99	100	63	84	1.92	4.68	0.42	0.44	0.18	1.05	7.65*
Dusi	3.8	97	97	98	100	76	91	1.91	4.75	0.35	0.36	0.16	0.87	7.53*
Neches	4.1	97	97	97	100	90	90	1.49	4.44	0.69	0.34	0.24	1.26	7.19*
Alice	3.1	98	98	98	100	89	94	1.80	4.12	0.54	0.44	0.22	1.20	7.12*
Cresendo	4.8	98	98	99	100	56	89	1.69	4.38	0.46	0.35	0.20	1.01	7.08*
Patriot	3.0	89	91	94	100	76	78	1.53	4.47	0.42	0.40	0.21	1.03	7.03
Apis	3.8	97	99	99	100	94	94	1.80	4.06	0.57	0.38	0.20	1.15	7.00
Rampart	2.5	75	91	91	100	80	91	1.23	4.10	0.47	0.37	0.20	1.03	6.37
Durana	2.5	89	96	97	100	88	86	1.22	3.83	0.43	0.31	0.21	0.96	6.01
Experimental	Varieties													
GATR16178	3.5	98	100	99	100	61	70	1.69	4.58	0.44	0.44	0.23	1.10	7.38*
CW9501	2.8	74	79	85	100	48	60	1.40	4.85	0.38	0.41	0.19	0.98	7.24*
Mean	3.5	92	95	96	100	76	85	1.62	4.42	0.49	0.39	0.21	1.08	7.12
CV,%	18.6	9	6	5	0	19	14	12.07	10.11	30.59	20.54	28.02	21.39	8.10
LSD,0.05	0.9	12	8	6	0	21	17	0.28	0.64	0.21	0.12	0.08	0.33	0.83

<sup>1</sup>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.

### 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 2½ to 3 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 has 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 percentage 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 2020 and one in 2022). The soil at Lexington (Maury) is a well-drained silt loam. All are well-suited to clover production. Plots were 5 feet by 20 feet in a randomized complete block design with four replications with a harvested plot area of 5 feet by 15 feet.

Seedings were made at 12 pounds 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 (P, K, and lime based on regular soil tests), 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 is presented in Table 1.

Yield data (on a dry matter basis) are presented in tables 2 through 4. Yields are given by cutting date for 2022 and as total annual production. Varieties are listed in order from highest to lowest total production (for the life of the test). Experimental varieties are listed separately at the bottom of the tables and are not available commercially.

Statistical analyses were performed on all clover data (including experimental varieties) to determine whether 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 and is likely common or VNS seed falsely advertised as Kenland. Our tests show uncertified Kenland 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

#### Table 5. Proprietors of red clover varieties in current trials in Kentucky.

current trials in Kentucky.	Proprietor/
Variety	KY Distributor
Commercial Varieties-Ava	ailable for Farm Use
Barduro	Barenbrug USA
Blaze	Mountain View Seeds
Common O	Public
Freedom!	Barenbrug USA
Gallant	Turner Seed
GA9908	Smith Seed
Kenland (certified)	KY Agric. Exp. Station
Redkin	DLF Pickseed
Renegade	DLF Pickseed
Robust III	Blue Moon Farms
Rustler	Oregro Seeds
SS-0303RCG	Southern States
Experimental Varieties <sup>1</sup>	
BARTP10	Barenbrug USA
BARTPV23	Barenbrug USA
BARTSRWR	Barenbrug USA
BY-RC31	BrettYoungSseeds
CW040040	Barenbrug USA
CW30091	Barenbrug USA
IS-TP-12	DLF Pickseed
GA-RXS	Univ. of GA
GATP1403	Univ. of GA
GATP1412	Univ. of GA
PSTCLVR20825	Caldbeck Consulting
PSTCLR98121	Caldbeck Consulting
TSTEERSOTET	calabeen consuming
RC08	Bailey Seed & Grain

<sup>1</sup>Experimental varieties are not available commercially, but provide an indication of the progress being made by forage breeding companies.

Table 6. Proprietors and clover type information of white clover varieties in current trials in Kentucky.

Variety	Туре	Proprietor/KY Distributor
Commercial V	arieties-Availabl	e for Farm Use
Alice	Intermediate	Barenbrug
Apis	Ladino	Smith Seed
Cresendo	Ladino	Barenbrug USA
Durana	Intermediate	Pennington
Dusi	Ladino	Barenbrug USA
Neches	Intermediate	Barenbrug USA
Patriot	Intermediate	Pennington
RegalGraze	Ladino	Cal/West Seed
Rampart	Ladino	Oregro Seeds
Will	Ladino	Allied Seed, L.L.C.
Experimental	Varieties <sup>1</sup>	
CW9501	Ladino	Barenbrug USA
GATR16178	Intermediate	Univ. of GA

<sup>1</sup>Experimental varieties are not available commercially, but provide an indication of the progress being made by forage breeding companies. of seeding improved red clover varieties compared to common types is 3 tons to 6 tons higher of dry matter/acre over the life of the stand.

Tables 5 and 6 show information about proprietors/distributors for all varieties included in the tests discussed 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. 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 2 through 4. Make sure seed of the variety selected is properly labeled and will be available when needed.

## How to Interpret the Summary Tables

Tables 7 and 8 are summaries of yield data from 2001 to 2022 of commercial varieties that have been entered in the Kentucky trials. The data is 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 7 and 8, 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 stable performance; others may have performed 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 the footnotes in tables 7 and 8 to determine which yearly report should be referenced.

#### 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 at local county Extension offices and are listed in the "Publications" section of the UK Forage website (https://forages. ca.uky.edu):

• Lime and Fertilizer Recommendations

(AGR-1)

- Producing Red Clover Seed in Kentucky (AGR-2)
- Grain and Forage Crop Guide for Kentucky (AGR-18)
- Renovating Hay and Pasture Fields (AGR-26)
- Growing Red Clover in Kentucky (AGR-33)
- Establishing Forage Crops (AGR-64)
- Inoculation of Forage Legumes (AGR-90)
- Growing White Clover in Kentucky (AGR-93)
- Weed Control Strategies for Alfalfa and Other Forage Legume Crops (AGR-148)
- Insect Management Recommendations for Field Crops and Livestock (ENT-17)
- Managing Legume-Induced Bloat in Cattle (ID-186)
- Kentucky Plant Disease Management Guide for Forage Legumes (PPA-10D)
- "Emergency" Inoculation for Poorly Nodulated Legumes (PPFS-AG-F-04)

## **About the Authors**

G.L. Olson is a research specialist, S.R. Smith and J.C. Henning are Extension professors and forage specialists, and C.D. Teutsch is an Extension associate professor and forage specialist.

3         15         19         05         08         10         19           Yr         3Yr         2-Yr         3Yr         3Yr         2-Yr         83         10         19           0         7         92         3Yr         3Yr         2-Yr         83         10           107         107         103         108         124         109         109           97         91         70         72         85         110         109         109           97         93         93         94         115         133         100         115           91         101         121         103         94         11         138         115           95         92         93         94         101         101         101         101         101         101         101         101         101         101         103         94         101		iable 7.5umimary or nemuchy red crover yield mans 2004-2012 (yield shown as a per centage of the mean of the named commercial varieties in the tradi- Princeton								xingt	2				3					Princeton	to t				Onicksand	cand		EdenShale	alah	
N1111         N11111         N1111         N1111 <t< th=""><th>Variety</th><th>Proprietor</th><th>04<sup>1,2</sup></th><th></th><th></th><th>-</th><th><math>\vdash</math></th><th><math>\vdash</math></th><th>-</th><th>13</th><th>14</th><th>15</th><th>16</th><th><math>\vdash</math></th><th>18</th><th><math>\vdash</math></th><th>-</th><th><math>\vdash</math></th><th>ő</th><th>=</th><th>13</th><th>15</th><th>19</th><th>05</th><th>80</th><th>10</th><th>19</th><th>80</th><th>10</th><th>Mean<sup>3</sup></th></t<>	Variety	Proprietor	04 <sup>1,2</sup>			-	$\vdash$	$\vdash$	-	13	14	15	16	$\vdash$	18	$\vdash$	-	$\vdash$	ő	=	13	15	19	05	80	10	19	80	10	Mean <sup>3</sup>
Mutrice iserval viewer with a field of a 1 a 1 a 1 a 1 a 1 a 1 a 1 a 1 a 1 a			3yr <sup>4</sup>									3yr	+			<u> </u>	<u> </u>				-	-	+	-	3yr	-	2-yr	3yr	3yr	(#trials
Benchon         Benchon         Image	AA117ER	ABI Alfalfa					<u> </u>	—		—								<u> </u>	<u> </u>		<u> </u>		-							96(3)
Bigliotic         Preserved         Preserved <t< td=""><td>Barduro</td><td>Barenbrug USA</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>~</td><td></td><td>2</td><td></td><td>-</td><td></td><td></td><td></td><td>73</td><td></td><td></td><td></td><td>83</td><td></td><td></td><td>81(4)</td></t<>	Barduro	Barenbrug USA													~		2		-				73				83			81(4)
Opposite         Description         Description <thdescription< th=""> <thdescription< th=""> <t< td=""><td>Bearcat</td><td>Brett Young Seeds</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>122</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>I</td></t<></thdescription<></thdescription<>	Bearcat	Brett Young Seeds											122																	I
Interner filte         Contraction	Bigfoot	Preferred Alf. Genetics														-	+	+	-				107							101(2)
Contraction         Desire         Image         Desire         Desire <thdesire< th=""> <thdesire< th=""> <thdesire< td=""><td>Blaze</td><td>Mountain View Seeds</td><td></td><td>1001</td><td></td><td></td><td></td><td>_</td><td></td><td></td><td>00</td><td></td><td>+</td><td>+</td><td>-</td><td>_</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>102</td><td>001</td><td>101</td><td></td><td>100</td><td>177</td><td>108(2)</td></thdesire<></thdesire<></thdesire<>	Blaze	Mountain View Seeds		1001				_			00		+	+	-	_								102	001	101		100	177	108(2)
Componing         Beam partiality         Image         Image <td></td> <td>Public</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>_</td> <td>ت ا</td> <td>_</td> <td>60</td> <td>02</td> <td>49</td> <td>_</td> <td></td> <td>-</td> <td>-</td> <td>_</td> <td>_</td> <td>_</td> <td></td> <td>_</td> <td>70</td> <td></td> <td>3</td> <td>12</td> <td>85</td> <td>8</td> <td>77</td> <td>77(17)</td>		Public						_	ت ا	_	60	02	49	_		-	-	_	_	_		_	70		3	12	85	8	77	77(17)
Dimention         Sected called         ID         ID <td>CW9901</td> <td>Barenbrua USA</td> <td></td> <td></td> <td>_</td> <td></td> <td><u></u></td> <td>-</td> <td>-</td> <td>5</td> <td>,</td> <td>2</td> <td>2</td> <td>_</td> <td>-</td> <td>_</td> <td></td> <td>+</td> <td>+</td> <td></td> <td>5</td> <td></td> <td>115</td> <td></td> <td></td> <td>+</td> <td>109</td> <td></td> <td>:</td> <td>109(3)</td>	CW9901	Barenbrua USA			_		<u></u>	-	-	5	,	2	2	_	-	_		+	+		5		115			+	109		:	109(3)
Environ         Unit yead         9         1	Dominion	Seed Research of OR		102		_							$\uparrow$	$\uparrow$			6	-	2					93				109		100(5)
Opene         Display         Display <thd< td=""><td>Emarwan</td><td>Turf-Seed</td><td>91</td><td></td><td></td><td>117</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td><u>2</u></td><td>9</td><td></td><td></td><td></td><td></td><td></td><td>66</td><td></td><td></td><td></td><td>103(4)</td></thd<>	Emarwan	Turf-Seed	91			117									-	-	-	-	<u>2</u>	9						66				103(4)
Processes         Image	Evolve	DLF Pickseed USA										98	-	102	$\vdash$	$\vdash$	$\vdash$	-	-			66								99(4)
Recomin         Recominic	FF9615	LaCrosse Seed												104	-	-	$\vdash$	-												107(2)
Freedom         Image         <	Freedom!	Barenbrug USA	118		100				-	101	97													119	106		133	100	140	112(28
FIG:30:0.0         Miled Seed         Ind	Freedom!MR	Barenbrug USA	102	114			112	~								26	12	5	10	∞			82	111		<u> </u>	115		125	112(13
Res         Miled Seed         BS         I         <	FSG 402	Allied Seed								104					-	-	$\vdash$	-			114									108(2)
Galant         Turne Seed         I	FSG 9601	Allied Seed	89												$\vdash$	$\vdash$	$\vdash$	$\vdash$	-											I
Opposite         Sinth Sect         I	Gallant	Turner Seed								101		112		<u> </u>	<u> </u>		1	_			107	<u> </u>	<u> </u>							106(9)
Julic         Constraint         Constraint </td <td>GA9908</td> <td>Smith Seed</td> <td></td> <td>93</td> <td></td> <td><u> </u></td> <td>77</td> <td> </td> <td> </td> <td></td> <td></td> <td></td> <td>92</td> <td></td> <td></td> <td></td> <td>85</td> <td></td> <td></td> <td>94(5)</td>	GA9908	Smith Seed												93		<u> </u>	77						92				85			94(5)
Reland (accrect)         IXY Agc 5Ga.         11         11         10 <th< td=""><td>Juliet</td><td>Caudill Seed</td><td></td><td></td><td></td><td>84</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>93</td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>84</td><td>59</td><td>82(5)</td></th<>	Juliet	Caudill Seed				84												93	-									84	59	82(5)
Reindard (urcer)         Node         B         I         B	Kenland (cert.)	KY Ag.Exp Sta.	117	-					1														_		104		110	110	138	110(28
Remonio         IX AgEro Sta.         97         112         12         94         106         103         94         106         93         97           L5 YM3         Levis Seat         97         119         18         107         101         107         104	Kenland (uncert)	Public					82						41					74								67		66	92	70(6)
Remosy         IX AgEsp Sta.         97         119         18         103	Kenton	KY Ag.Exp Sta.	95	112	_	_											10	_						106	98					105(8)
Using Steed       Using Steed       Iop       Iop<	Kenway	KY Ag.Exp Sta.	97	119	_	~											6			8				103	94					104(8)
Monimolystar         Cal/West Seeds         Image         Cal/West Seeds         Image         Second         PS         PS <th< td=""><td>LS 9703</td><td>Lewis Seed</td><td></td><td></td><td></td><td></td><td></td><td></td><td>107</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>86</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>97(2)</td></th<>	LS 9703	Lewis Seed							107												86									97(2)
Plus II         Allied Seed         I30         I30         I30         I30         I31	Morning Star	Cal/West Seeds																96										90		90(2)
Quinequeli         Caudil Seed         Caudil Seed <thcaudil seed<="" th=""> <thcaudil seed<="" th=""></thcaudil></thcaudil>	Plus II	Allied Seed			130																				97					114(2)
Red Gold         Proseeds Marketing         81         1         1         102         913           Red Gold Ulus         Turmer Seed         95         1	Quinequeli	Caudill Seed				92													80	_									57	76(3)
Red Gold Plus       Turner Seed       95       1 </td <td>Red Gold</td> <td>Proseeds Marketing</td> <td></td> <td>81</td> <td></td> <td>8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>102</td> <td></td> <td>91(3)</td>	Red Gold	Proseeds Marketing		81														8										102		91(3)
Reckin         DLF Pickseed USA         Image of the sector of the sectin the sector of the sector of	Red Gold Plus	Turner Seed	95																											ı
Rediand Max       ABI Alfalfa       95       1       1       100       1       100       1       100       10       100	Redkin	DLF Pickseed USA														6	4													Т
Renegade         DLF Pickseed USA         Image         Image <td>Redland Max</td> <td>ABI Alfalfa</td> <td>95</td> <td></td> <td>ı</td>	Redland Max	ABI Alfalfa	95																											ı
RobustBlu Moon FarmsBlu Farms<	Renegade	DLF Pickseed USA														Ę	g													ı
Robust IISeed Research of ORIII <td>Robust</td> <td>Blu Moon Farms</td> <td></td> <td>78</td> <td><math>\dashv</math></td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td>ı</td>	Robust	Blu Moon Farms												78	$\dashv$	-	-	-	-											ı
Robust III         Seed Research of OR         I	Robust II	Seed Research of OR																Ē	0									108		109(2)
Rocket         Seed Research of OR         I <td>Robust III</td> <td>Seed Research of OR</td> <td></td> <td>ĭ</td> <td>8</td> <td></td> <td>ı</td>	Robust III	Seed Research of OR														ĭ	8													ı
RustlerOregro Seeds8310184010492(7)SolidProduction Service7919101841031041047610107107SolidSouthern States10111110310915011710293114101041041010110Starfine IICal/West & Ampac101111101101101111110(8)Triple Trust 350ABI Alfalfa101101101101101101112113111WildcatBrett Young Seeds101101101101101101101102(3)'Vear trial was established.'Vear trial was established.'Berth 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'Berth 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'Berth Summary table as a guide in making variety decisions, but refer to specific yearly reports to the final report would be "2012 Red and White Clover Report" archived in the UK Forage website'Berth Summary table as a guide in making variety was included in two or more trials.'Berth Summary table as a guide in making variety was included in two or more trials.'Berth Summary table as a guide in makin	Rocket	Seed Research of OR																Ĩ Į	9	_								108		107(2)
SolidProduction Service79797910310310511710293114710310410476767676767670107(11)Sc-0303RCGSouthern States101111103103105112101101(1)95(3)Starfne IICal/West & Ampac10110111110710710292112112115111110(8)Triple Trust 350ABI Alfafa10110110110110110195(3)WildcatInsert Young Seeds101101101101101939210710798102(3)'Vera trial was established.210710710710710710710798102(3)102(3)'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 the solution trial planted in the spring of 2010 was harvested 3 years, so the final report would be "2012 Red and White Clover Report" archived in the UK Forage website'Mean only presence when expective variety was included in two or more trials.'Mean only presence when expective variety was included in two or more trials.	Rustler	Oregro Seeds			83		10									∞	-								94	66			104	92(7)
SS-0303RCG       Southern States       101       101       103       104       104       104       107       107(11)         Starfire II       Cal/West & Ampac       101       111       107       107       107       107       107       107       107       107       101       112       112       112       110       112       95(3)         Triple Trust 350       ABI Alfalfa       101       101       101       101       101       101       112       112       112       112       112       95(3)         Wildcat       Brett Young Seeds       101       101       101       101       101       102(3)         Ver trial was established.       101       101       101       101       101       102(3)       102       107       107       98       102(3)         1 Ver trial was established.       2010 was harvested 3 years, so the final report would be "2012 Red and White Clover Report" arctived in the UK Forage website       102(3)       102(3)         1 Ost for each splease a guide in making variety decisions, but refer to specific yearly reports on the final report would be "2012 Red and White Clover Report" archived in the UK Forage website       102(3)         1 Ost for each splease a whole, the Lexington trial planted in the spring of 2010 was harvested 3 years, s	Solid	<b>Production Service</b>		79										-	_			9	-					76						80(3)
Startfire II       Cal/West & Ampac       101       111       107       107       107       107       1012       115       111       110(8)         Triple Trust 350       ABI Alfalfa       101       101       101       101       95(3)         Wildcat       Brett Young Seeds       101       101       101       101       102(3)         Vert rial was established.       101       101       101       101       102(3)       102(3)         1 Vear trial was established.       2 statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year of actual yields 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 the seculty explore the neck of the respective variety was included in two or more trials.         3 Mean only presented when respective variety was included in two or more trials.	SS-0303RCG	Southern States									103			-	_		4				103	-	-				80			107(11
Triple Trust 350ABI Alfalfa10110195(3)WildcatBrett Young Seeds10110196929292(3)WildcatBrett Young Seeds101101102(3)1 Year trial was established.102 sectific yearly reports to determine statistical differences in forage yield between varieties. To find actual yields, look in the yearly report for the final year (https://forage.ca.uky.edu).98102(3)1 Rutps://foragefic.org/10710710798102(3)1 Rutps://foragefic.org/107107107108102(3)1 Rutps://foragefic.org/107107107108102(3)1 Rutps://foragefic.org/1071071071071071081 Rutps://foragefic.org/107107107107108102(3)1 Rutps://foragefic.org/1071071071071071071 Rutps://foragefic.org/1071071071071071072 Read Nupresented when expective variety was included in two or more trials.1001071071073 Read Nupresented when expective variety was included in two or more trials.1071071071073 Read Nupresented when expective variety was included in two or more trials.107107107107	Starfire II	Cal/West & Ampac			-		;-	_			107								7						110	112		115	111	110(8)
Wildcat       Brett Young Seeds       101       101       102(3)         1 Year trial was established.       1 Year trial was established.       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 those. To find actual yields, look in the yearly report for the final year of the scale weak weak to the final report would be "2012 Red and White Clover Report" archived in the UK Forage website         3 Mean only presented when respective variety was included in two or more trials.	Triple Trust 350	ABI Alfalfa		101													6	5		_				92						95(3)
<sup>1</sup> Year trial was established. <sup>2</sup> 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 the spring of 2010 was harvested 3 years, so the final report would be "2012 Red and White Clover Report" archived in the UK Forage website (https://forage.cauky.euu).	Wildcat	Brett Young Seeds				101													10	~						98				102(3)
<sup>2</sup> 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 the spring of 2010 was harvested 3 years, so the final report would be "2012 Red and White Clover Report" archived in the UK Forage website (https://forages.ca.uky.edu).	<sup>1</sup> Year trial was est	ablished.																												
(https://forgesc.ca.uky.edu). 3 Mean only presented when respective variety was included in two or more trials.	<sup>2</sup> Use this summary of each specific t	y table as a guide in makin rrial For example the Levir	g variet	ty dec	isions	in the	efer to snring	speci	fic yea.	thy rep	orts to	detern	so the	atistică final re	al differ	ences i	in fora	ge yielc 2 Red a	d betw	een va	rieties	. To fir	nd actu	al yield	ds, lool e IIK F	k in the	e yearly wehsite	report	for the	final yea
<sup>3</sup> Mean only presented when respective variety was included in two or more trials.	(https://forages.u	anan Torexampre, une texin ca.uky.edu).	idroil ri	וומו אול	מוורבת			1 UI 21			באנבת ה	ycano,				מ הוחס										uaye	אירטטוני	D		
	<sup>3</sup> Mean only preser	nted when respective varie	ty was	inclua	led in	two oi	r mor	e trials.																						

5

Table 7. Summary of Kentucky red clover yield trials 2004-2022 (yield shown as a percentage of the mean of the named commercial varieties in the trial).

											reality will	אייי								•		=	
Variety	Type	Proprietor	02 <sup>1,2</sup>	03	04	90	07	80	60	10	11	12	13	14	15	16	17	18	19	20 (	03		Mean <sup>3</sup>
			3yr <sup>4</sup>		3-yr	2-yr	2-yr	3yr	2yr	3yr	3yr	2yr	3yr	3yr	2yr		3yr			3-yr 3	3yr 3	3-yr (;	(#trials)
Advantage	Ladino	Allied Seed, L.L.C.		125																			ī
Alice	Intermediate	Barenbrug USA												105	120	78	94	93	112	100		86	100(8)
Apis	-	Smith Seed Services																	96	66			98(2)
Avoca	Dutch	DLF Pickseed				59																82	71(2)
Barblanca	Intermediate	Barenbrug USA		92																			ī
Bombus	Ladino	Hood River														111	115						113(2)
Brianna	Ladino	DLF Pickseed														103	100						102(2)
CA ladino	Ladino	Public	100		124															-	103		109(3)
Colt	Intermediate	Seed Research of OR		8		57															-	114	87(3)
Common	Dutch	Public	100				53			98						$\left  \right $	$\left  \right $	$\left  \right $	$\left  \right $	$\vdash$		78	82(4)
Companion	Ladino	Oregro Seeds						87	94	92									6			-	89(4)
Crescendo	Ladino	Cal/West Seeds	105			140														100	-	109	114(4)
Crusader II	Intermediate	Allied Seed, L.L.C.								90	50	54	75										67(4)
Excel	Ladino	Allied Seed, L.L.C.			100																		I
Domino	Ladino	Grassland Oregon												87									ı
Durana	Intermediate	Pennington		94		94	88	82	85	97	93	84	97	89	78	66	89	73	82	85 8	87	83	88(18)
Dusi	Ladino	Barenbrug USA																	-	106			I
GWC-AS10	Ladino	Ampac Seed									102												I
Insight	Ladino	Allied Seed, L.L.C.				128																	ı
lvory	Intermediate	Cebeco	96																				ī
lvory II	Intermediate	DLF Pickseed					86			101	127												105(3)
Jumbo	Ladino	Ampac Seed	93																_				Т
ll odmul	Ladino	Ampac Seed									121	101			66							-	107(3)
Kakariki	Ladino	Luisetti Seeds															108						ı
Kopu II	Intermediate	Ampac Seed	97			97	95	95	103	96	80	90											94(8)
KY Select	Intermediate	KY. Agric. Exp. Station									98	95								_	_		97(2)
Neches	Intermediate	Barenbrug USA													79				93	101			91(3)
Ocoee	Ladino	Allied Seed, L.L.C.								89	74												82(2)
Patriot	Intermediate	Pennington		103		87	104	113	95	117	117	66	82	78	88	100	93	92	88	99	104	100	98(18)
Pinnacle	Ladino	Allied Seed, L.L.C.				120															-	111	116(2)
Rampart	Ladino	Allied Seed, L.L.C.					80	89	97	83									90	90	_		88(6)
Regal	Ladino	Public	66	96	92		125	100	116	118	129	147	123							-	107 1	100	113(12)
RegalGraze	Ladino	Cal/West Seeds				127	140	102	103						111	119	112	120	120	108		-	116(10)
Renovation	Intermediate	Smith Seed Services												83	85	91			66	_	_		90(4)
Resolute	Intermediate	Southern States				63														_	_	_	T
RIVENDEL	1	DLF Pickseed														59	88						74(2)
Seminole	Ladino	Saddle Butte Ag. Inc			108	70	79							114									93(4)
Super Haifa	Intermediate	Allied Seed, L.L.C.			77																		1
Tillman II	Ladino	Caudill Seed	103																				ı
WBDX	Dutch	Saddle Butte Ag. Inc									-												ī
11211			107	_	_	162	150	132	107	119	137	130	123	143	140	140	102	122	122	111		136 1	128(17)

yearly report for the final year of each specific trial. For example, the Lexington trial planted in the spring of 2010 was harvested years, so the final report would be "2012 Red and White Clover Report" archived in the UK Forage website at forages.ca.uky.edu. 3Mean only presented when respective variety was included in two or more trials. 4Number of years of data.



Mention or display of a trademark, proprietary product, or firm in text or figures does not constitute an endorsement and does not imply approval to the exclusion of other suitable products or firms.

The College of Agriculture, Food and Environment is an Equal Opportunity Organization.