NAME OF TEST: White clover variety test, Mt. Pleasant, Texas, 1961-62.
OBJECTIVE: To determine total yield and adaptibility of several varieties of white clover.
EXPERIMENTAL PROCEDURE:
Location: D. C. Hinson farm, Mt. Pleasant, Texas
Soil type: Sawyer fine sandy loam
Experimental design: Randomized block; 4 replications; plots, 6 rows, 15 feet long, 10 inches between rows; harvested plots, 34 inches by 7 1/2 feet long. (ABF = 2050)
Cultural practices: Planted October 6, 1961; fertilized uniformly with 0-60-60 prior to planting. Harvest dates were April 26 and June 6. Rainfall during the growing season was 32.03 inches.
Source of materials: USDA and R. D. Staten
RESULTS: See tables.
DISCUSSION: Weather conditions over the growing season were about normal. The lowest temperature was 5 degrees below zero and a high the following day of 15 degrees above. This extreme occurred with 7 inches of snow covering the ground for a 3-day period, January 10-12. The Ladino types, in general, produced greater yields of forage than Louisiana S-1 white, the recommended variety. (S-1 is recommended because of superior reseeding ability and medium-high forage yields.) Nolin's improved white and Louisiana white were diseased and low producing at the last cutting.

PROJECT: 1240
DATE SUBMITTED: August, 1962
WORKER: J. A. Lancaster

White clover variety test, Mt. Pleasant, Texas, 1962

Variety	Pounds of air-dry forage per acre		
	April 26	June 6	Season Total
Merit Ladino	1310	1360	2670
Bohnert Ladino	1210	1420	2630
Idaho Ladino	1230	1130	2360
California Ladino	830	1320	2150
Pilgrim Ladino	560	1250	1810
Louisiana S-1	510	1110	1620
Nolin's improved	520	790	1310
Louisiana white	400	650	1050
LSD (.05)	330	320	530
C.V. (%)	27.3	19.3	18.6

Average season yields of white clover varieties
Mt. Pleasant, Texas, 1957-62

Variety	Pounds air-dry forage per acre 1957	1958	1960	1961	1962	Comparable Average
Bohnert Ladino			885	3210	2630	(2080)
California Ladino		2010	820	3010	2150	(1860)
Pilgrim Ladino	1560	1740	505	3085	1810	1740
Idaho Ladino			770	2560	2360	(1730)
Louisiana S-1	990	1680	710	3175	1620	1640
Louisiana white			825	2960	1050	(1450)
Nolin's improved	430	1480	430	2835	1310	1300
Merit Ladino					2670	
No. of cuttings	2	2	1	2	2	
LSD (.05)	620	330	285	N.S.	530	
C.V. (%)	13.6	12.4	27.2	26.2	18.6	

NAME OF TEST: Red Clover variety test, College Station, Texas, 1962.
OBJECTIVE: To evaluate several Red clover varieties for adaptation and production potential.
EXPERIMENTAL PROCEDURE:
Location: BRVL near College Station, Texas.
Soil type: Miller clay
Experimental design: Randomized block, 3 replications, plots - 5 ft. x 17 ft. (12 inches between rows). Harvested plots - 3 ft. x 15 ft.
Cultural practices: Planted October 19, 1961; emerged October 31, 1961; no fertilizer applied. One harvest date, May 25, 1962.
Source of materials: USDA and local.
RESULTS: See table.
DISCUSSION: Extremely cold winter temperatures following an extended period of unseasonably warm temperatures greatly reduced the yields of forage usually obtained at this location. Tensas was the only variety that made sufficient growth after the cold weather to approach a satisfactory yield level. No regrowth was produced by any variety because of dry weather prior to and following harvest.

PROJECT: State 1240
DATE SUBMITTED: June, 1962.
WORKER: R. D. Staten

Red Clover Variety Test, BRVL, 1962

Variety	Pounds per acre dry matter, May 25, 1962			
	Rep I	Rep II	Rep III	Average
Tensas	1570	1270	940	1260
Nolin's	710	750	940	800
Orbit	1140	700	500	780
Pennscott	530	720	870	710
Kenland	450	600	810	620
Chesapeake	505	830	495	610
Dollard	680	580	550	600
Lakeland	670	310	480	490
Texas Composite	230	470	500	400
LSD (.05)				375
C.V. (%)				30.9

NAME OF TEST: Red clover variety test, Mt. Pleasant, Texas, 1962.
OBJECTIVE: To determine the yield and adaptation of different red clover varieties.
EXPERIMENTAL PROCEDURE:
Location: D. C. Hinson farm, Mt. Pleasant, Texas
Soil type: Sawyer fine sandy loam
Design: Randomized block; 4 replications; 6-row plots, 15 feet long, 10 inches between rows; harvested plots 34 inches by 7.5 feet. (ABF = 2050).
Cultural practices: Planted October 6; fertilized uniformly 0-60-60 prior to planting; harvest dates April 26 and June 6; rainfall during the season 32.03 inches.
Source of materials: USDA and R. D. Staten
RESULTS: See tables.
DISCUSSION: Weather conditions throughout the growing season were about normal with the lowest temperature -5° F. followed by a day-time high of 15° F. Seven inches of snow was on the ground at that time and no cold injury occurred. Yields were very good during the winter of 1961-62, with most varieties producing over 1 1/2 tons of dry matter in the two cuttings obtained. Several of the newer varieties looked very good. Chesapeake made more early growth than most entries but Lakeland, Tensas, Orbit and Kenland had yields comparable to Chesapeake by the end of the season.

PROJECT: 1240
DATE SUBMITTED: August, 1962.
WORKER: J. A. Lancaster

Red clover variety test, Mt. Pleasant, Texas, 1962

Variety	Pounds air-dry forage per acre		
	April 26	June 6	Season Total
Nolin's Improved	2070	1800	3870
Lakeland	1550	2270	3820
Chesapeake	2070	1595	3665
Tensas (La.)	1730	1800	3530
Pennscott	1635	1750	3385
Orbit (Miss.)	1510	1830	3340
Kenland	1570	1710	3280
Dollard	1410	1795	3205
Kenland Comp.(Tex)1/	530	1230	1760
LSD (.05)	386	466	660
C.V. (%)	16.9	18.2	13.6

1/ Poor stand.

Average season yields of red clover varieties
Mt. Pleasant, Texas, 1960-62

Variety	Yield of air-dry forage in pounds per acre			
	1960	1961	1962	Comparable Average
Kenland	530	3340	3280	2380
Nolin's Improved	645		3870	(2360)
Chesapeake	580	2400	3665	2215
Pennscott	590	2590	3385	2190
Tensas (La.)	420	1880	3530	1940
Lakeland	480	1465	3820	1920
Dollard		1930	3205	(1760)
Port Gibson	550	1150		(1550)
Orbit (Miss.)		1350	3340	(1540)
Wisc. Syn. 55		1480		(1275)
Tex. Comp. Kenland			1760[1/]	
No. of cuttings	1	2	2	
LSD (.05)	N.S.	880	660	
C.V. (%)	23.0	22.5	13.6	

1/ Poor stand.

NAME OF TEST: Crimson Clover variety test, College Station, Texas, 1962.
OBJECTIVE: To evaluate several Crimson clover varieties for adaptation and production potential.
EXPERIMENTAL PROCEDURE:
Location: Brazos River Valley Lab near College Station, Texas.
Soil type: Miller Clay
Experimental design: Randomized block, 3 replications, plots-5 feet x 17 feet (12 inches between rows). Harvested plots-3 feet x 15 feet.
Cultural practices: Planted October 19, 1961; emerged October 31, 1961; no fertilizer applied. One harvest date, April 18, 1962.
Source of materials: USDA and local.
RESULTS: See table
DISCUSSION: Extremely cold weather (14° F. for 3 successive nights) following a 3 week period of warm growing temperatures reduced the production of all varieties and one variety was winter killed. No significant differences were obtained in the yield of the surviving entries. Frontier, a new variety, was somewhat earlier but produced about the same total yield. April and May were dry and no appreciable regrowth occurred.

PROJECT: State 1240
DATE SUBMITTED: June, 1962
WORKER: R. D. Staten

Crimson Clover Variety Test, BRVL, 1962

Variety	Pounds per acre dry matter, April 18, 1962 Rep I	Rep II	Rep III	Average
Frontier[1/]	2000	1380	1870	1750
Auburn	1460	2550	1240	1750
Common	1330	1610	1760	1570
Talladega	1660	1400	1420	1490
Dixie	1600	1330	1520	1480
Autauga	1630	1400	1310	1450
Chief Hensel Park[2/]	1690	1600	980	1420
LSD (.05)				N.S.
C.V. (%)				23.3

1/ Newly released variety (Mississippi) - Italian introduction

2/ Winter killed.

NAME OF TEST: Vetch variety tests, College Station, Texas, 1961-62.

OBJECTIVE: To evaluate varieties of vetch for use as a winter cover-crop emphasing total production of dry-matter available to turn under on different plow-up dates. To determine the relative production potential for hay and seed when interplanted with oats.

EXPERIMENTAL PROCEDURE:

Location: Brazos River Valley Lab near College Station, Texas

Soil type: Miller clay loam

Experimental design: Randomized block, 3 replications, plots 5 feet x 17 feet. Green-manure or cover-crop test - vetch in pure stand, rows 24 inches apart and 17 feet long. Hay and seed test - alternate rows of Alamo oats and vetch, 12 inches between rows and rows 17 feet long.

Cultural practices: Planted October 19, emerged October 31; no fertilizer applied. Harvest dates green-manure (all above-ground growth from 1/3 of plot) March 26, April 16 and May 7. Hay harvest of oats and vetch, April 17. Seed harvest at maturity, May 7 to May 25. Insect data obtained by Neal Randolph, Entomology Department.

Source of materials: USDA and local.

RESULTS: See tables.

DISCUSSION: By the March 26 date, there was more above-ground plant material produced by woollypod vetch varieties, however these yields were not significantly greater than those of hairy vetch. By the April and May plow-up dates, there was no real difference among any of the varieties that survived the winter. Purple vetch was completely winter killed and Willamette, Warrior and Narrowleaf had considerable damage. (Lowest temperature was 9° F.). The Narrowleaf vetch used in this test was bulk seed harvested from a pasture near Mt. Pleasant, Texas. This unselected source of narrowleaf vetch showed up very well in comparison with the named varieties and other studies indicated that this strain can be improved considerably. Hairy vetch and the woollypod vetches produced the greatest growth when planted with oats, but the combined hay yield of Alamo oats and Hairy vetch was considerably greater than all other entries. The woollypod vetches apparently offered so much competition to the oats during the winter that the total hay yield was decreased. Seed yields varied from 210 to 970 pounds per acre, but this wide difference does not reflect the true relationship of the variety seed production potential. For example, narrowleaf vetch produced almost 60% as many seed as hairy vetch even though their yields were 210 and 670 pounds per acre, respectively. Hairy vetch seed is almost twice as large as narrowleaf seed.

Vetch bruchid counts indicated that Narrowleaf, Hungarian, Warrior and Willamette are highly resistant to attacks of this insect. All varieties of Vicia villosa and V. dasycarpa are very susceptible to attacks of the vetch bruchid.

PROJECT: State 1240

DATE SUBMITTED: June, 1962

WORKER: R. D. Staten

Average yield of dry-matter produced by vetch varieties from planting to different plow-up dates, 1962. BRVL, College Station, Texas.

Variety	Pound dry-matter per acre produced by each date[1/] March 26 Yield	Rank	April 16 Yield	Rank	May 7 Yield	Rank
Lana Woollypod	2900	2	4020	5	5620	3
Auburn Woollypod	2370	4	4030	3	4440	8
Oregon Woollypod	3340	1	4670	2	6330	1
Hairy	2585	3	4985	1	5145	5
Madison Hairy	2260	6	4030	4	5120	6
Hungarian	2300	5	3630	6	5960	2
Willamette	1020	9	2220	9	4110	9
Warrior	1440	8	3130	7	5400	4
Narrowleaf	1480	7	2800	8	4600	7
Purple[2/]	----		----		----	
LSD (.05)	780		N.S.		N.S.	
C.V.(%)	20.6		27.4		21.7	

1/ Yields represent total above ground growth
2/ Winter killed, not included in analysis

Average yield of air-dry hay in pound per acre produced by interplanting oat and vetch; harvested April 17, 1962, BRVL, College Station, Texas.

Variety	Pounds air-dry hay produced per acre[1/] Oats and Vetch	Rank	Vetch Component	Rank	Percent Vetch
Lana Wollypod	2800	2	2160	2	79.5
Auburn Woollypod	2320	7	1970	4	84.1
Oregon Wollypod	2570	4	2140	3	83.0
Hairy	3140	1	2390	1	77.2
Madison Hairy	2210	8	1640	7	75.0
Hungarian	2430	5	1900	5	77.4
Willamette	2330	6	1530	8	66.8
Warrior	2750	3	1830	6	67.1
Narrowleaf	1560	9	920	9	60.5
Purple[2/]	----		----		----
LSD (.05)	770		N.S.		N.S.
C.V. (%)	24.2		19.7		16.8

1/ Growth reduced by extreme cold, particularly the oat component.
2/ Winter killed.

Average yield of clean vetch seed in pound per acre and other seed data obtained with different varieties at Brazos River Valley Laboratory, College Station, Texas, 1962.

Variety	Seed yield	Rank	No. seed per gram	% yield of Hairy based on seed no.	Bruchids per 100 grams	Damaged seed[3]	Germination[4] Percent	Germination[4] % Hard	Date Mature
Lana Woollypod	335	7	28.9	31.8	31	595	73	7	5/15
Auburn Woollypod	220	8	29.8	22.4	114	1593	63	6	5/15
Oregon Woollypod	630	5	31.8	66.7	33	892	85	4	5/15
Hairy	670	4	44.8	100.0	56	707	80	8	5/25
Madison Hairy	850	2	44.7	127.7	46	1272	81	3	5/25
Hungarian	410	6	29.7	40.7	0	71	91	0	5/20
Willamette	800	3	18.6	53.2	5	314	89	4	5/25
Warrior	970	1	19.4	64.7	0.3	138	95	2	5/25
Narrowleaf Purple[2]	210[1]	9	84.8	59.4	0	120	54	34	5/7
LSD (.05)	250								
C.V. (%)	25.8								

1/ Some shattering at time of harvest for seed.
2/ Winter killed.
3/ Number of damaged seed per 100 grams
4/ Germination and hard seed counts after 12 days.

NAME OF TEST: Vetch and winter pea variety test, Mt. Pleasant, Texas, 1962.
OBJECTIVE: To evaluate the varieties for winter cover on the basis of total forage production as well as seasonal forage production.
EXPERIMENTAL PROCEDURE:

Location: D. C. Hinson farm, Mt. Pleasant, Texas
Soil type: Bowie loamy fine sand
Design: Randomized block; 4 replications; 6-row plots, 15 feet long, 10 inches between rows; harvested plots 34 inches x 7.5 feet. (ABF = 2050).
Cultural practices: Planted October 6; fertilized 0-60-60 prior to planting; harvest dates April 2 and May 17; rainfall during season 31.6 inches.
Source of materials: USDA and R. D. Staten

RESULTS: See tables
DISCUSSION: Weather conditions were about normal with the coldest temperature -5° F. followed by a day-time high of 15° F. Seven inches of snow covered the ground during this time and no winter killing was noted on vetch but some of the winter peas were killed. This and previous tests were handled as if the crop was being grown for hay instead of green manure, thus, the results may not be comparable to other locations. No appreciable difference was found between the woollypod vetches and hairy vetches except that the woollypod varieties produced more of their growth during the winter. The common vetches and the winter pea varieties were definitely inferior to the other vetches.

PROJECT: 1240
DATE SUBMITTED: August, 1961
WORKER: J. A. Lancaster

Vetch and winter pea variety test, Mt. Pleasant, Texas, 1962.

Variety	Pounds of air-dry forage per acre		
	April 2	May 17	Season Total
Oregon Woollypod	680	1800	2480
Hairy	600	1550	2150
Madison Hairy	480	1510	1990
Lana Woollypod	780	1050	1830
Auburn Woollypod	650	1060	1710
Hungarian		1920	1920
Willamette		1610	1610
Purple		610	610
LSD (.05)	N.S.	N.S.	665
C.V. (%)	32.7	40.0	25.3
Romack peas	1010		1010
Austrian peas	280		280
Papago	--- 1/		

1/ Winter killed.

Average yield of dry matter produced by vetch varieties handled as a hay crop, Mt. Pleasant, Texas 1960-62

Variety	Pounds of air-dry forage per acre 1960	1962	Comparable Average
Madison Hairy	1880	1990	1935
Hairy	1650	2150	1900
Oregon Woollypod	920	2480	1700
Lana Woollypod	1500	1830	1665
Auburn Woollypod	1545	1710	1630
Hungarian	1/	1920	(960)
Willamette	1/	1610	(805)
Warrior	1/		
Purple		610	(345)
No. of cuttings	2	2	
LSD (.05)	N.S.	665	
C.V. (%)	34.1	25.3	

1/ Winter killed.

NAME OF TEST: Vetch Breeding Nursery, College Station, Texas.

OBJECTIVE: To develop a variety of narrowleaf vetch, Vicia angustifolia, that is comparable to Hairy vetch in forage production with sufficient seed shatter resistance to make mechanical seed harvest feasible.

EXPERIMENTAL PROCEDURE:

Location: Brazos River Valley Lab near College Station, Texas

Soil type: Miller clay loam

Cultural practices: Planted October 20, 1961, in 40 inch rows with 40 inches between plants in the row. Several seed from a bulk lot collected near Mt. Pleasant were planted in each hill and thinned to a single plant per hill after emergence. There was a total of 1860 spaced plants. No fertilizer was applied. Nursery was cultivated and hoed as necessary to keep free of weeds. Notes were taken at frequent intervals on vigor, growth habit, and stage of maturity and seed was harvested from a portion of each surviving plant at maturity. Notes were continued on remaining portion of each plant to determine seed holding ability.

DISCUSSION: Narrowleaf vetch, Vicia angustifolia, is a naturally occurring vetch species throughout Northeast Texas and is particularly well suited as a winter annual legume in pastures. It reseeds readily under grazing conditions and persists year after year with little or no special care. In most respects, this species is similar to V. sativa but the seed pods are dark brown or black and the seed is about half the size of Hairy vetch seed. This species has about 35 percent hard seed compared with less than 5 percent hard seed in other cultivated species. Tests in 1962 indicated that the species is almost immune to attacks of the vetch bruchid, which makes seed production of V. villosa and V. dasycarpa hazardous. The bulk population of narrowleaf vetch shatters its seed readily making seed harvest very difficult.

In 1961-62, open-pollinated selections were made for cold tolerance, desirable agronomic type, disease resistance, good seedling vigor and seed holding ability. (Seed holding ability was determined by the number of days between the formation of the first full-sized pod and 75 to 100 percent shattering.) About nine percent of the bulk population winter killed and another sixteen percent was eliminated as weak or diseased. Sixty-two shatter-resistant selections were made representing early, medium and late flowering types. Plants with little or no shatter-resistance also were saved for use as checks in each maturity group. The following table lists the selections and checks with the 1962 seed holding index ratings.

PROJECT: Hatch 460

WORKER: R. D. Staten

DATE SUBMITTED: August, 1962

1962 Narrowleaf Vetch Selections, BRVL, College Station, Texas

1962 No. Early maturity	Seed holding index 1/	1962 No. Med. early continued	Seed holding index	1962 No. Late maturity	Seed holding index
I-98 ck.	35	V-91	56	III-29 ck.	30
II-24 ck.	37	V-125	56	XI-53 ck.	30
VI-143	51	VII-23	56	XII-124 ck.	30
XI-13	51	X-52	56	XII-138 ck.	30
XI-34	51	I-134	52	II-23 ck.	25
II-28	44	I-159	52	III-32 ck.	21
II-112	44	II-60	52	II-155	59
VIII-20	44	II-61	52	IV-108	59
X-42	44	II-70	52	IV-146	59
XII-15	44	II-133	52	V-143	59
		II-134	52	VI-110	59
Med. early maturity		II-144	52	VIII-118	59
II-27 ck.	33	IV-151	52	IX-142	59
II-39 ck.	33	IV-160	52	X-146	58
II-42 ck.	33	VIII-58	52	XII-149	58
III-27 ck.	33	VIII-144	52	II-158	56
IX-37 ck.	33	XII-39	52	III-120	56
X-8 ck.	30	I-13	49	VIII-126	56
II-138	60	I-40	49	IX-105	56
III-141	60	I-123	49	III-111	52
XI-130	60	I-124	49	III-116	52
I-41	56	I-158	49	IV-149	52
I-118	56	VI-60	49	V-134	52
IV-54	56	VIII-153	49	X-145	52
IV-117	56	X-60	42	XII-125	52
IV-145	56			XII-153	52
				VI-50	49

1/ Number of days from seed formation to shattering.