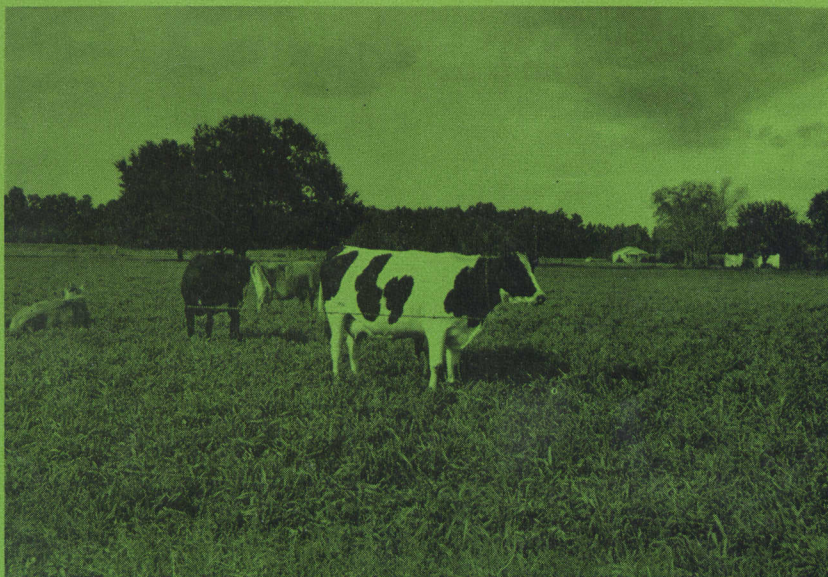


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PLANTING
DATES
for
OATS
for forage and grain



AGRICULTURAL EXPERIMENT STATION
AUBURN UNIVERSITY

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Auburn, Alabama

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PLANTING DATES for OATS

for forage and grain

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OATS HAVE been grown in Alabama for many years. Only in recent years has this crop become one of importance.

Before the livestock industry grew to its present size in Alabama, there was little interest in oat production. Limited markets for the grain, poor varieties, and a general lack of knowledge of how to produce oats were some major causes for lack of interest. Immediately after World War II cattle numbers in Alabama began to increase and with this came an increase in oat production, Table 1.

From 1950 until 1956 oat acreages doubled and leveled off at about one-half million acres. A sharp decrease in acreage occurred in 1958. In 1959 total acreage again approached the one-half million mark.

Approximately one-fourth the total oat acreage is harvested for grain and most of this is harvested after cattle are grazed on

TABLE 1. OATS—ACREAGE, YIELD, PRODUCTION, 1950-59¹

Year	Total planted	Total harvested for grain	Average yield per acre	Total production
	<i>Acres</i>	<i>Acres</i>	<i>Bu.</i>	<i>Bu.</i>
1950	277,000	72,000	26.0	1,872,000
1951	219,000	42,000	27.0	1,134,000
1952	272,000	85,000	28.5	2,422,000
1953	373,000	138,000	32.0	4,416,000
1954	545,000	185,000	29.5	5,458,000
1955	649,000	170,000	26.0	4,420,000
1956	519,000	165,000	34.0	5,610,000
1957	503,000	170,000	25.0	3,000,000
1958	402,000	96,000	31.0	2,976,000
1959	481,000	112,000	30.0	3,360,000

¹ These data were taken from reports compiled by the Alabama Cooperative Crop Reporting Service.

the crop. The remaining three-fourths is either grazed completely or harvested for hay or silage.

Oats produced at the Auburn University Agricultural Experiment Station and at six of its Substations averaged 55 to 60 bushels of oats per acre for many years. This is in contrast to the highest average production in the State of 34 bushels per acre in 1956. The Station's Department of Agricultural Economics has determined that the cost of growing oats in the Tennessee Valley using average cultural practices is approximately \$33 per acre. This does not include land cost.

It is estimated that 20 to 25 million bushels of oats are required to meet current annual needs in Alabama. This is 4 to 5 times the production of 1956. Based on 1959 figures the amount of oat grain needed is 7 to 8 times the amount produced.

Oats furnish two sources of feed for livestock, grazing and grain. The value of forage often exceeds the value of grain.

To use the full potential of oats, a farmer must produce high yields. First, a good soil for oat production is needed. Most well-drained soils are suitable. Satisfactory grain yields may be obtained when oats are planted on a prepared seedbed or in corn, cotton, and grain sorghum middles or in sods. For fall grazing, oats need to be planted on a well-prepared seedbed. Lime, phosphorus, and potash needs are determined by soil tests, and applications made before or at the time of planting. Results of experiments show that satisfactory yields of oat forage may be obtained from an application of 50 pounds of nitrogen per acre as a topdressing in the fall after the crop is up to a stand. If a grain crop is to be harvested, it is advisable to discontinue grazing about February 15 to March 1 and apply an additional 50 pounds of nitrogen per acre. It is recommended that oats grown only for grain be given a spring application of nitrogen but none in the fall.

The Small Grain Variety Report published by this Station serves as a guide for selecting varieties.

The purpose of this bulletin is to report results of experiments conducted to determine the best seeding dates for oats, for grain, and for forage and grain.

EXPERIMENTAL PROCEDURE

The experiments were conducted at the following seven locations: Tennessee Valley Substation, Sand Mountain Substation,

Piedmont Substation, Main Station, Black Belt Substation, Lower Coastal Plain Substation, and Gulf Coast Substation. The tests consisted of two varieties of oats (Nortex 107 and Victorgrain 48-93) planted at four different dates in northern and southern Alabama and at five different dates in central Alabama. Planting dates for northern Alabama were August 20, September 10, September 30, and October 20. In central Alabama planting dates were August 20, September 10, September 30, October 20, and November 10. In southern Alabama oats were planted on September 10, September 30, October 20, and November 10.

Oats were seeded at the rate of three bushels per acre. Two series of plots were used at each location with one managed for grain production only. At planting these plots received adequate rates of phosphate and potash fertilizers based on previous experiments. Fifty pounds of nitrogen per acre was applied as a topdressing on or about March 1. The other series of plots was managed for the production of forage (grazing) and grain. These plots received the same phosphate and potash applications at planting as those managed for grain only. In addition, these plots received 50 pounds per acre of nitrogen as a topdressing when oats were up to a stand. Forage and grain yields were determined by conventional experimental methods. Clipping was discontinued on or about March 1 and an additional 50 pounds of nitrogen per acre was applied.

According to the Station's Department of Animal Husbandry and Nutrition, a pound of dry matter from oats, if consumed as green pasturage by animals, is equivalent in feed value to a pound of oat grain. This factor was used to convert forage yields to grain equivalents.

Information was obtained at seven locations over a 6-year period with some exceptions. Because of adverse weather and damage by animals, all tests at all locations did not yield reliable data each year. For these reasons results obtained represent 26 location-years. Data reported include 9 location years from northern, 10 from central, and 7 from southern Alabama.

RESULTS

The varieties responded similarly to the different planting dates in northern and central Alabama. However, Victorgrain 48-93 was superior to Nortex 107 with respect to yield of forage and grain in these regions. In southern Alabama there was no

difference between varieties. Since varietal responses were similar, data for both varieties have been combined. Detailed data are given in the Appendix.

Average yields of forage, grain from clipped plots, combined yields of forage and grain, and grain from unclipped plots are given in Figures 1, 2, 3, and 4, respectively.

Oats for Forage

Figure 1 shows that maximum forage yields were obtained from September 10 plantings in both northern and central sections. September 30th plantings in southern Alabama gave the highest forage yields. Yields of forage in northern and central Alabama were about the same for comparable dates of planting. Maximum yields were about 1,600 pounds of dry forage per acre. In southern Alabama forage yields from the different dates of planting exceeded those from comparable dates in the other two regions, with maximum yields being approximately 2,300 pounds of dry matter per acre for the September 30 planting date. Total forage production was not determined, since clipping was discontinued by mid-February in southern Alabama and by March 1 in northern and central Alabama.

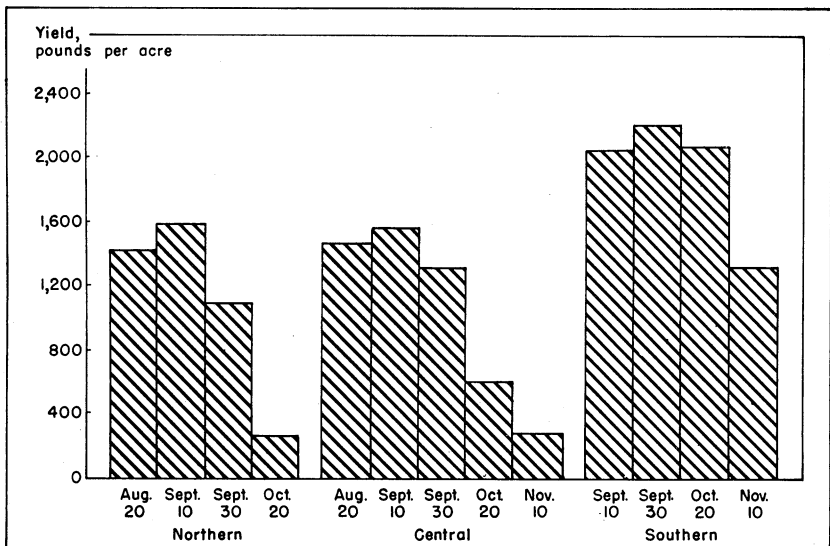


FIG. 1. The graph above shows oat forage yields from different dates of planting, 1952-57. LSD .05 for northern, central, and southern Alabama was 348, 350, and 442 pounds per acre, respectively.

Oats for Grain after Clipping

Highest yields of grain from clipped plots were obtained in northern Alabama and lowest yields in southern Alabama, Figure 2, whereas forage yields were the reverse. Under clipped conditions, grain yields increased with each successive date of planting in northern Alabama. This was true, even though forage yields dropped significantly for the September 30 and October 20 planting dates. Practically no forage was obtained from the October 20 plantings. A comparison of the grain yield for the October 20 plantings under clipped conditions, Figure 2, and the yield of grain for the same date under non-clipped conditions, Figure 4, reveals that there is no difference between the two. Clipping reduced the yield of grain from the August 20, September 10, and September 30 plantings by approximately 200 pounds per acre when compared to unclipped plots, Figure 4. However, the 1,100 to 1,600 pounds of forage obtained more than offset this 200 pound loss of grain.

In central Alabama clipping did not materially affect grain yields for any date of planting.

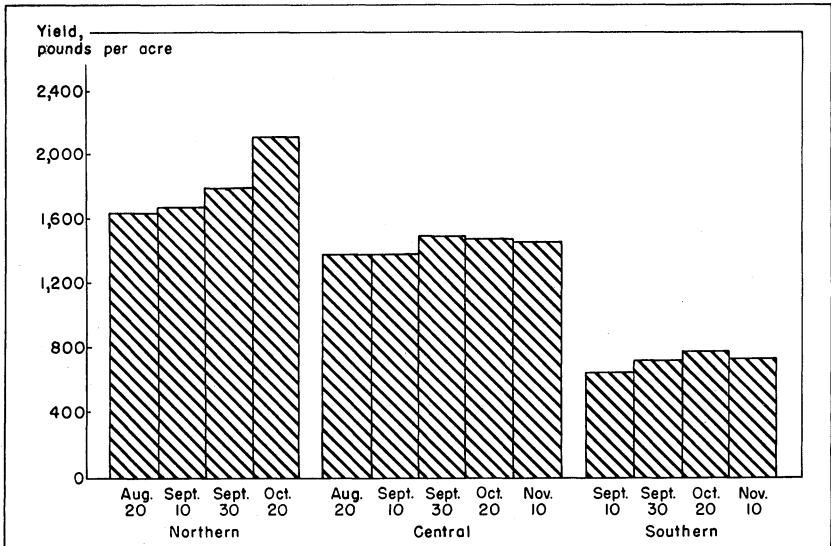


FIG. 2. Grain yields from clipped oats are shown above from different dates of planting, 1952-57. LSD .05 for northern, central, and southern Alabama was 218, 192, and 160 pounds per acre, respectively.

Yields of grain were decreased approximately 200 pounds per acre for all planting dates in southern Alabama as a result of clipping. Because grain yields are almost always low in southern Alabama, this loss from clipping amounts to approximately 20 per cent. However, this loss is not excessive since forage yields were high enough to more than offset the lower yield of grain. It is doubtful if farmers in southern Alabama should grow oats only for grain in view of the low yields usually obtained.

Oats for Forage and Grain

By combining forage and grain yields by the method described, there is little difference in maximum yields on a feed value basis for the three regions of the State, Figure 3. Maximum yields for northern and central Alabama were obtained from the Septem-

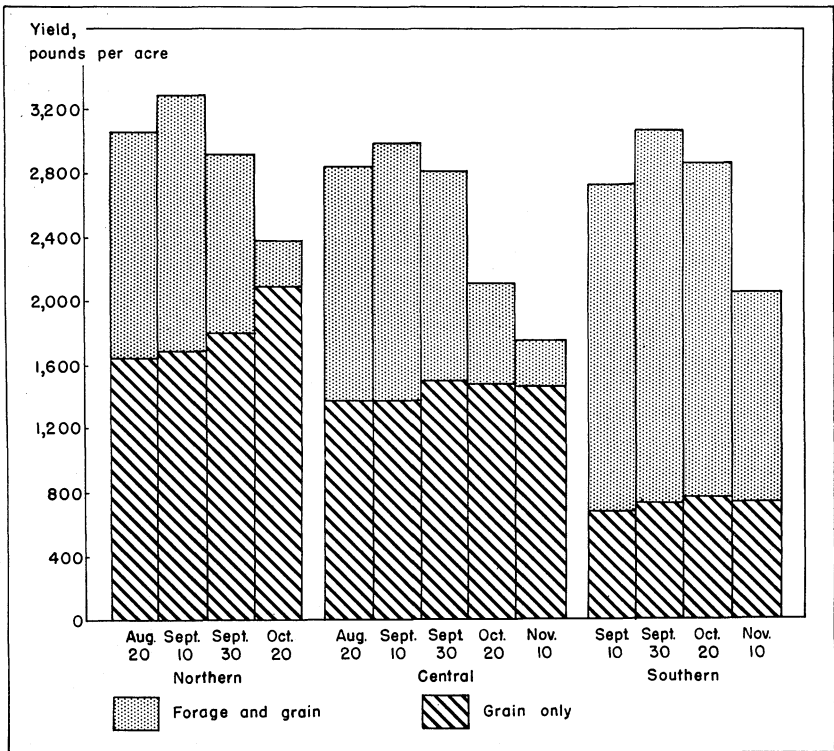


FIG. 3. The above graph shows combined yields of forage and grain from different dates of planting, 1952-57. LSD .05 for northern, central, and southern Alabama was 292, 275, and 371 pounds per acre, respectively.

ber 10 planting date, whereas the September 30 planting date in southern Alabama gave the highest yield. The similarity of yield curves for the three regions is striking if the 20-day delay in planting interval between southern Alabama and the other two regions is taken into consideration.

The best planting dates for combined forage and grain production were September 10 in northern and central Alabama and September 30 in southern Alabama, Figure 3.

Oats for Grain Only

Grain yields on unclipped plots were approximately 2,000, 1,500, and 900 pounds per acre in northern, central and southern Alabama, respectively, Figure 4. It apparently makes little difference when oats are planted if harvested for grain only. There were minor yield advantages for September 30 and October 20 planting dates for all regions. In general, these dates are 20 to 30 days later than those recommended for planting for forage and grain in northern and central Alabama. However, they coincide rather closely with the recommended date for forage and grain production in southern Alabama.

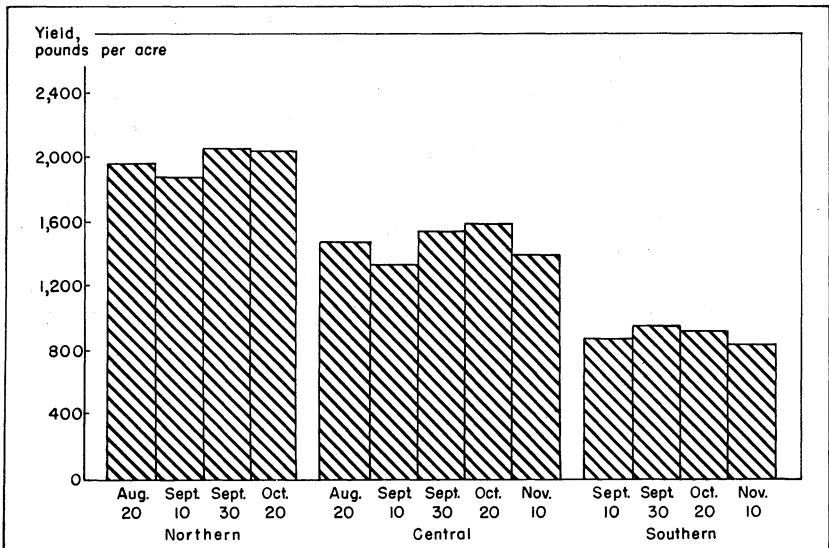


FIG. 4. Yields from oats managed for grain only in northern, central, and southern Alabama from different dates of planting 1952-57, are given in the graph.

SUMMARY

Experiments were conducted from 1952 through 1957 to determine the best dates of planting oats for grain only and for forage and grain combined. There were seven test locations with two, three, and two locations representing northern, central and southern Alabama, respectively. Four dates of planting were used in northern and southern Alabama and five dates in central Alabama. One series of plots at each location was managed to determine grain yields only and another series was managed to determine grain and forage yields. Total yields were calculated by considering that a pound of dry forage, if consumed as green pasturage, is equivalent to a pound of grain.

Forage yields for comparable dates of planting were highest in southern Alabama. There was relatively little difference between forage yields for comparable dates in central and northern Alabama. Northern Alabama produced the highest grain yields followed in order by the central and southern regions. This was true for all planting dates. Yields of grain were decreased somewhat by clipping but the forage obtained more than compensated for this loss. When forage and grain yields were combined, there was relatively little difference in maximum per acre production of feed in the regions. There was, however, a difference in the best date to plant for maximum yields. The recommended planting dates for forage and grain production in the three regions are: northern Alabama, September 1 to September 20; central Alabama, September 1 to September 30; and southern Alabama, September 20 to October 20.

Planting dates did not materially affect yield of oats grown for grain only in any of the regions. The maximum difference (8 bushels per acre) occurred between the September 10 and October 20 planting dates in central Alabama. This indicates that most any of the planting dates in any of the regions would be satisfactory for grain production only.

ACKNOWLEDGMENTS

The experiments reported herein were conducted by many workers of this Station. Credit is due E. F. Schultz¹, Foy Campbell¹, F. L. Selman¹, L. J. Chapman, and D. G. Sturkie of the Main Station, Auburn, Alabama. Personnel who cooperated at Substations were J. K. Boseck, W. W. Cotney, E. L. Mayton, L. A. Smith, V. L. Brown, and Otto Brown².

¹ Resigned

² Retired

APPENDIX TABLE 1. FORAGE YIELDS FROM NORTEX 107 AND VICTORGRAIN 48-93 OATS SEEDED AT DIFFERENT DATES, AUGUST 20 TO OCTOBER 20 IN NORTHERN ALABAMA, 1952-1957

Variety	Date of seeding	Average yield dry matter per acre										
		Belle Mina					Winfield					Regional average
		1952	1953	1954	1955	1957	1952	1953	1955	1957		
		<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	
Nortex 107	Aug. 20	1,022	1,664	1,614	0	2,702	1,724	769	55	1,874	1,269	
	Sept. 10	1,603	1,631	2,804	130	2,761	1,603	718	174	1,549	1,441	
	Sept. 30	343	937	1,461	178	1,821	1,364	616	368	1,633	969	
	Oct. 20	0	110	0	0	0	617	110	83	785	189	
Victorgrain 48-93	Aug. 20	654	3,431	2,453	39	2,223	2,504	994	77	1,772	1,572	
	Sept. 10	2,280	2,461	2,088	295	2,845	2,323	1,402	428	1,693	1,757	
	Sept. 30	682	1,354	1,623	273	1,991	2,190	926	532	1,487	1,229	
	Oct. 20	166	360	0	39	0	969	301	215	1,158	356	

APPENDIX TABLE 2. FORAGE YIELDS FROM NORTEX 107 AND VICTORGRAIN 48-93 OATS SEEDED AT DIFFERENT DATES, AUGUST 20 TO NOVEMBER 10 IN CENTRAL ALABAMA, 1952-1957

Variety	Date of seeding	Average yield dry matter per acre											
		Camp Hill					Auburn					Marion Junction 1954	Regional average
		1952	1953	1954	1955	1952	1953	1954	1955	1957			
		<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	
Nortex 107	Aug. 20	¹	2,455	1,644	108	¹	3,034	702	1,272	2,237	1,020	1,525	
	Sept. 10	885	3,139	2,523	113	1,963	2,239	257	944	1,927	863	1,485	
	Sept. 30	370	2,488	1,379	34	955	1,165	926	1,038	2,246	894	1,150	
	Oct. 20	299	519	329	210	633	666	181	565	563	1,051	502	
	Nov. 10	66	112	269	82	214	122	70	302	175	454	187	
Victorgrain 48-93	Aug. 20	¹	2,437	1,711	324	¹	3,070	732	792	948	1,176	1,363	
	Sept. 10	928	3,176	2,314	174	1,825	3,664	418	756	2,033	1,308	1,660	
	Sept. 30	538	3,177	1,774	175	1,031	1,742	1,288	1,474	2,006	1,311	1,452	
	Oct. 20	507	775	575	244	1,398	436	418	1,010	596	1,254	721	
	Nov. 10	221	202	438	256	578	338	223	636	224	614	373	

¹ Yields not obtained.

APPENDIX TABLE 3. FORAGE YIELDS FROM NORTEX 107 AND VICTORGRAIN 48-93 OATS SEEDED AT DIFFERENT DATES, SEPTEMBER 10 TO NOVEMBER 10 IN SOUTHERN ALABAMA, 1953-1957

Variety	Date of seeding	Average yield dry matter per acre							
		Camden				Fairhope			Regional average
		1953	1954	1955	1957	1954	1955	1957	
		<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>
Nortex 107	Sept. 10	1,519	1,491	199	1,983	3,253	4,311	2,144	2,129
	Sept. 30	2,150	1,516	762	2,175	2,643	3,822	1,662	2,104
	Oct. 20	1,178	2,014	1,688	1,768	2,457	3,839	1,396	2,049
	Nov. 10	710	110	321	1,107	2,238	1,995	1,913	1,199
Victorgrain 48-93	Sept. 10	2,537	596	1,001	1,173	3,268	4,299	1,288	2,023
	Sept. 30	2,578	1,550	1,895	2,147	2,642	5,478	1,433	2,532
	Oct. 20	1,104	2,576	1,975	1,695	2,846	3,612	1,000	2,115
	Nov. 10	1,170	248	810	1,140	2,303	2,911	1,276	1,408

APPENDIX TABLE 4. TOTAL PRODUCTION FROM CLIPPED AND UNCLIPPED NORTEX 107 AND VICTORGRAIN 48-93 OATS SEEDING AT DIFFERENT DATES, AUGUST 20 TO OCTOBER 20 IN NORTHERN ALABAMA, 1952-1957

Variety	Date of seeding	Treatment	Average yield per acre										
			Belle Mina					Winfield					Regional average
			1952	1953	1954	1955	1957	1952	1953	1955	1957		
			<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	
Nortex 107	Aug. 20	Clipped	3,393	4,058	2,840	1,062	3,710	3,654	2,414	1,700	3,048	2,875	
		Unclipped	2,326	2,752	899	1,632	1,728	2,448	1,296	1,693	2,189	1,885	
	Sept. 10	Clipped	4,182	3,740	4,289	1,125	3,849	3,283	2,228	2,001	2,794	3,055	
		Unclipped	2,211	2,330	1,267	1,062	2,070	1,690	2,054	1,875	2,010	1,841	
	Sept. 30	Clipped	1,905	3,023	2,891	1,109	2,992	4,129	2,062	2,422	2,807	2,593	
		Unclipped	1,478	2,637	1,296	1,037	1,824	2,931	1,386	1,850	1,379	1,758	
	Oct. 20	Clipped	1,446	2,107	1,539	1,632	1,552	3,372	2,411	1,846	2,731	2,071	
		Unclipped	1,021	2,710	1,430	1,594	1,715	2,771	1,926	1,766	2,349	1,920	
Victorgrain 48-93	Aug. 20	Clipped	3,025	6,055	3,272	1,469	3,817	4,226	3,253	1,248	2,860	3,247	
		Unclipped	2,768	2,445	1,078	1,146	2,163	3,133	2,387	1,066	2,045	2,026	
	Sept. 10	Clipped	5,211	4,397	3,394	1,085	4,355	3,910	4,052	2,412	2,672	3,499	
		Unclipped	3,270	2,227	682	723	2,272	2,179	1,994	1,606	2,154	1,901	
	Sept. 30	Clipped	3,846	3,808	2,346	1,105	3,732	5,438	3,400	2,311	2,831	3,202	
		Unclipped	2,675	3,238	1,485	682	2,473	3,757	2,400	1,645	2,250	2,289	
	Oct. 20	Clipped	2,748	3,509	2,112	1,386	2,176	4,329	2,426	2,039	3,398	2,680	
		Unclipped	870	2,490	2,083	1,405	2,150	2,989	2,221	1,862	2,806	2,097	

APPENDIX TABLE 5. TOTAL PRODUCTION FROM CLIPPED AND UNCLIPPED NORTEX 107 AND VICTORGRAIN 48-93 OATS SEEDED AT DIFFERENT DATES, AUGUST 20 TO NOVEMBER 10 IN CENTRAL ALABAMA, 1952-1957

Variety	Date of seeding	Treatment	Average yield per acre										
			Camp Hill				Auburn					Marion Junction 1954	Regional average
			1952	1953	1954	1955	1952	1953	1954	1955	1957		
			<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>
Nortex 107	Aug. 20	Clipped	¹ 3,777	4,063	1,087	¹ 3,908	1,608	1,794	2,445	2,358	2,715		
		Unclipped	¹ 1,549	1,549	1,472	¹ 1,130	627	230	1,789	1,619	1,357		
	Sept. 10	Clipped	2,834	4,272	4,533	971	4,398	3,100	1,307	1,453	2,253	2,527	2,765
		Unclipped	1,510	1,376	1,030	1,184	1,651	1,430	662	474	480	2,365	1,216
	Sept. 30	Clipped	3,202	3,564	4,041	837	2,597	2,698	2,280	1,678	2,736	2,897	2,653
		Unclipped	1,859	1,222	1,779	982	2,035	1,510	1,014	413	595	2,512	1,392
	Oct. 20	Clipped	2,654	2,564	2,470	1,519	2,799	2,100	1,611	1,039	1,059	2,181	2,000
		Unclipped	1,648	1,798	2,336	995	1,709	1,482	1,376	400	522	1,277	1,354
	Nov. 10	Clipped	2,092	2,499	2,675	898	1,900	1,325	1,433	884	841	2,150	1,670
		Unclipped	1,350	1,286	2,925	1,117	1,651	1,171	851	314	448	2,237	1,335
Victorgrain 48-93	Aug. 20	Clipped	¹ 5,170	4,713	1,428	¹ 5,105	1,033	1,323	1,076	2,709	2,916		
		Unclipped	¹ 2,518	2,490	1,238	¹ 1,869	378	522	208	2,547	1,573		
	Sept. 10	Clipped	2,320	5,954	4,576	1,224	3,537	5,728	1,167	1,700	2,292	2,726	3,124
		Unclipped	1,184	1,795	1,984	1,037	1,626	1,904	650	362	1,197	2,595	1,433
	Sept. 30	Clipped	3,152	5,449	3,976	882	2,653	3,704	2,619	1,740	2,236	3,052	2,946
		Unclipped	1,942	1,782	2,432	1,254	2,333	2,861	1,037	256	1,114	2,128	1,714
	Oct. 20	Clipped	2,805	2,391	2,946	1,226	2,819	3,236	1,756	1,410	1,028	2,172	2,179
		Unclipped	1,830	2,026	3,037	1,117	3,219	2,890	1,242	400	771	1,533	1,807
	Nov. 10	Clipped	1,872	2,480	2,505	1,168	2,354	2,220	1,260	1,241	915	2,150	1,817
		Unclipped	1,686	1,498	3,059	1,021	2,102	1,395	1,008	544	554	1,923	1,479

¹ Yields not obtained.

APPENDIX TABLE 6. TOTAL PRODUCTION FROM CLIPPED AND UNCLIPPED NORTEX 107 AND VICTORGRAIN 48-93 OATS SEEDED AT DIFFERENT DATES, SEPTEMBER 10 TO NOVEMBER 10 IN SOUTHERN ALABAMA, 1953-1957

Variety	Date of seeding	Treatment	Average yield per acre							Regional average
			Camden				Fairhope			
			1953	1954	1955	1957	1954	1955	1957	
			<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>
Nortex 107	Sept. 10	Clipped	3,087	2,704	1,466	2,185	3,349	4,884	2,307	2,855
		Unclipped	1,293	2,083	1,142	362	518	723	230	907
	Sept. 30	Clipped	3,648	2,754	1,620	2,857	2,713	5,265	1,771	2,947
		Unclipped	1,920	1,798	1,050	115	163	1,142	141	904
	Oct. 20	Clipped	2,157	3,784	2,955	2,478	2,716	4,969	1,527	2,941
		Unclipped	1,075	2,259	1,226	435	736	762	186	954
Nov. 10	Clipped	1,280	1,416	1,601	2,166	2,443	3,262	2,086	2,036	
	Unclipped	973	2,016	995	406	339	506	163	771	
Victorgrain 48-93	Sept. 10	Clipped	4,003	1,646	2,281	1,173	3,326	4,449	1,288	2,595
		Unclipped	2,080	1,184	982	202	1,075	163	0	812
	Sept. 30	Clipped	4,120	2,964	2,836	2,320	2,725	5,696	1,433	3,156
		Unclipped	1,862	2,083	886	550	896	736	0	1,002
	Oct. 20	Clipped	2,346	4,086	2,970	2,073	2,942	4,034	1,000	2,779
		Unclipped	1,530	1,798	1,075	230	637	915	0	884
	Nov. 10	Clipped	2,248	1,992	1,847	1,575	2,361	3,266	1,276	2,081
		Unclipped	1,510	1,837	790	550	544	995	0	889

APPENDIX TABLE 7. GRAIN YIELDS FROM CLIPPED AND UNCLIPPED NORTEX 107 AND VICTORGRAIN 48-93 OATS SEEDED AT DIFFERENT DATES, AUGUST 20 TO OCTOBER 20 IN NORTHERN ALABAMA, 1952-1957

Variety	Date of seeding	Treatment	Average yield per acre										
			Belle Mina					Winfield					Regional average
			1952	1953	1954	1955	1957	1952	1953	1955	1957		
			<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	
Nortex 107	Aug. 20	Clipped	74.1	74.8	38.3	33.2	31.5	60.3	51.4	51.4	36.7	50.2	
		Unclipped	72.7	86.0	28.1	51.0	54.0	76.5	40.5	52.9	68.4	58.9	
	Sept. 10	Clipped	80.6	65.9	46.4	31.1	34.0	52.5	47.2	57.1	38.9	50.4	
		Unclipped	69.1	72.8	39.6	33.2	64.7	52.8	64.2	58.6	62.8	57.5	
	Sept. 30	Clipped	48.8	65.2	44.7	29.1	36.6	86.4	45.2	64.2	36.7	50.8	
		Unclipped	46.2	82.4	40.5	32.4	57.0	91.6	43.3	57.8	43.1	54.9	
Oct. 20	Clipped	45.2	62.4	48.1	51.0	48.5	86.1	71.9	55.1	60.8	58.8		
	Unclipped	31.9	84.7	44.7	49.8	53.6	86.6	60.2	55.2	73.4	60.0		
Victorgrain 48-93	Aug. 20	Clipped	74.1	82.0	25.6	44.7	49.8	53.8	70.6	36.6	34.0	52.4	
		Unclipped	86.5	76.4	33.7	35.8	67.6	97.9	74.6	33.3	63.9	63.3	
	Sept. 10	Clipped	91.6	60.5	40.8	24.7	47.2	49.6	82.8	62.0	30.6	54.4	
		Unclipped	102.2	69.6	21.3	22.6	71.0	68.1	62.3	50.2	67.3	59.4	
	Sept. 30	Clipped	98.9	76.7	22.6	26.0	54.4	101.5	77.3	55.6	42.0	61.7	
		Unclipped	83.6	101.2	46.4	21.3	77.3	117.4	75.0	51.4	70.3	71.5	
	Oct. 20	Clipped	80.7	98.4	66.0	42.1	68.0	105.0	66.4	57.0	70.0	72.6	
		Unclipped	27.2	77.8	65.1	43.9	67.2	93.4	69.4	58.2	87.7	65.5	

APPENDIX TABLE 8. GRAIN YIELDS FROM CLIPPED AND UNCLIPPED NORTEX 107 AND VICTORGRAIN 48-93 OATS SEEDED AT DIFFERENT DATES, AUGUST 20 TO NOVEMBER 10 IN CENTRAL ALABAMA, 1952-1957

Variety	Date of seeding	Treatment	Average yield per acre										Regional average	
			Camp Hill				Auburn					Marion Junction 1954		
			1952	1953	1954	1955	1952	1953	1954	1955	1957			
			Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	
Nortex 107	Aug. 20	Clipped	¹	41.3	75.6	30.6		¹	27.3	28.3	16.3	6.4	41.8	37.2
		Unclipped	¹	48.4	48.4	46.0		¹	35.3	19.6	7.2	55.9	50.6	42.4
	Sept. 10	Clipped	60.9	35.4	62.8	26.8	76.1	26.9	32.8	15.9	10.2	52.0	40.0	
		Unclipped	47.2	43.0	32.2	37.0	51.6	44.7	20.7	14.8	15.0	73.9	38.0	
	Sept. 30	Clipped	88.5	33.6	83.2	25.1	51.3	47.9	42.3	20.0	15.3	62.6	47.0	
		Unclipped	58.1	38.2	55.6	30.7	63.6	47.2	31.7	12.9	18.6	78.5	43.5	
	Oct. 20	Clipped	73.6	63.9	66.9	40.9	67.7	44.8	44.7	14.8	15.5	35.3	46.8	
		Unclipped	51.5	56.2	73.0	31.1	53.4	46.3	43.0	12.5	16.3	39.9	42.3	
	Nov. 10	Clipped	63.3	74.6	75.2	25.5	52.7	37.6	42.6	18.2	20.8	53.0	46.4	
		Unclipped	42.2	40.2	91.4	34.9	51.6	36.6	26.6	9.8	14.0	69.9	41.7	
Victorgrain 48-93	Aug. 20	Clipped	¹	85.4	93.8	34.5		¹	63.6	9.4	16.6	4.0	47.9	48.5
		Unclipped	¹	78.7	77.8	38.7		¹	58.4	11.8	16.3	6.5	79.6	49.2
	Sept. 10	Clipped	43.5	86.8	70.7	32.8	53.5	64.5	23.4	29.5	8.1	44.3	45.7	
		Unclipped	37.0	56.1	62.0	32.4	50.8	59.5	20.3	11.3	37.4	81.1	44.8	
	Sept. 30	Clipped	81.7	71.0	68.8	22.1	50.7	61.3	41.6	8.3	7.2	54.4	46.7	
		Unclipped	60.7	55.7	76.0	39.2	72.9	89.4	32.4	8.0	34.8	66.5	53.6	
	Oct. 20	Clipped	71.8	50.5	74.1	30.7	44.4	87.5	41.8	12.5	13.5	28.7	45.6	
		Unclipped	57.2	63.3	94.9	34.9	100.6	90.3	38.8	12.5	24.1	47.9	56.4	
	Nov. 10	Clipped	51.6	71.2	64.6	28.5	55.5	58.8	32.4	18.9	21.6	48.0	45.1	
		Unclipped	52.7	46.8	95.6	31.9	65.7	43.6	31.5	17.0	17.3	60.1	46.2	

¹ Yields not obtained.

APPENDIX TABLE 9. GRAIN YIELDS FROM CLIPPED AND UNCLIPPED NORTOX 107 AND VICTORGRAIN 48-93 OATS SEEDED AT DIFFERENT DATES, SEPTEMBER 10 TO NOVEMBER 10 IN SOUTHERN ALABAMA, 1953-1957

Variety	Date of seeding	Treatment	Average yield per acre							
			Camden				Fairhope			Regional average
			1953	1954	1955	1957	1954	1955	1957	
			<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>
Nortex 107	Sept. 10	Clipped	49.0	37.9	39.6	6.3	3.0	17.9	5.1	22.7
		Unclipped	40.4	65.1	35.7	11.3	16.2	22.6	7.2	28.4
	Sept. 30	Clipped	46.8	38.7	26.8	21.3	2.2	45.1	3.4	26.3
		Unclipped	60.0	56.2	32.8	3.6	5.1	35.7	4.4	28.3
	Oct. 20	Clipped	30.6	55.3	39.6	22.2	8.1	35.3	4.1	27.9
		Unclipped	33.6	70.6	38.3	13.6	23.0	23.8	5.8	29.8
Nov. 10	Clipped	17.8	40.8	40.0	33.1	6.4	39.6	5.4	26.2	
	Unclipped	30.4	63.0	31.1	12.7	10.6	15.8	5.1	24.1	
Victorgrain 48-93	Sept. 10	Clipped	45.8	32.8	40.0	.0	1.8	4.7	.0	17.9
		Unclipped	65.0	37.0	30.7	6.3	33.6	5.1	.0	25.4
	Sept. 30	Clipped	48.2	44.2	29.4	5.4	2.6	6.8	.0	19.5
		Unclipped	58.2	65.1	27.7	17.2	28.0	23.0	.0	31.3
	Oct. 20	Clipped	38.8	47.2	31.1	11.8	3.0	13.2	.0	20.7
		Unclipped	47.8	56.2	33.6	7.2	19.9	28.6	.0	27.6
	Nov. 10	Clipped	33.7	54.5	32.4	13.6	1.8	11.1	.0	21.0
		Unclipped	47.2	57.4	24.7	17.2	17.0	31.1	.0	27.8

