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SURVEY OF 1953 EXPERIENCE WITH
GRAIN SORGHUMS IN SOLANO COUNTY

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Grain sorghums are a well established crop in the Delta district of Solano County. During recent years, about 7,000 to 8,000 acres of this crop have been planted each year. The principal varieties grown are Double Dwarf 38, milo and Ryer 15 milo. Yields in the Delta in most cases have been between 3,000 and 6,000 lbs. of threshed grain per acre, and it has been considered one of the most profitable crops grown in that area.

Some grain sorghums have been grown each year in that part of Solano County which lies outside the Delta. Part of this acreage has been irrigated and part has been on dry land.

In 1953, the grain sorghum plantings outside the Delta were larger than usual. A heavy rain occurred in late April. This made conditions favorable for planting and the acreage planted on dry land was increased. The acreage planted on irrigated land was also larger than usual. This was caused by an increased demand for an irrigated crop which can be profitably grown on heavy soils in rotation with irrigated pasture and on lean soils following a spring harvested crop, such as sugar beets..

It appears, therefore, that a survey of 1953 plantings of grain sorghums in Solano County would show the conditions under which this crop can be profitably grown and the production methods which will result in the best yields for the crop. We have completed such a survey. Most of the acreage grown in the county outside the Delta has been included and typical plantings made in the Delta have been added, in order that yields and production methods in the two areas may be compared.

In the following tables, the data secured during the survey have been divided into three groups. The first group includes all grain sorghum plantings on dry land, the second group all plantings on irrigated land outside the Delta, and the third, typical plantings in the Delta district.

DRY LAND

No.	Dist- rict	Soil Type	Pre- vious Crop	Variety	Date of Plant- ing	Rate of Seeding lbs./A.	Row width inches	Date of Harvest	Yield lbs. Per Acre
1	Dixon	Yolo fine silty loam shallow phase	Bar- ley	D. D. Yellow Sooner	May 15	5-6	24"	Sept. 1	1000
2	Elmira	Denver- ton & Hartley undiffer- entiated	Fal- low	D. D. 38	Last of May	2.5- 3	24"	Last of October	667
3	Elmira	Zamora clay loam & Zamora silty clay loam	Grain	D. D. 38	Last of May	14	24"	Late October	312
4	Vaca- ville	Olcott fine sandy loam and Clear Lake clay adobe	Pas- ture	D. White Durra	May	3	34"	October	340
5	Monte- zuma	Yolo silty clay loam dark colored phase and Montezuma clay adobe	Wheat	Ryer 15	May 1	13	12"	October 1st	700
6	Monte- zuma	Antioch fine sandy loam and Denver- ton clay adobe	Fal- low	Ryer 15	April	13	12"	October	450
7	Monte- zuma	Monte- zuma clay adobe	Fal- low	Ryer 15	May	8	18"	October	375
8	Monte- zuma	Denver- ton clay adobe	Fal- low	Ryer 15	April	5.5	24"	October	350
Average									528

IRRIGATED

No.	Dist- rict	Soil Type	Pre- vious Crop	Variety	Date Plant- ing	Rate of Seeding lbs./A.	Row width inch.	Date of Harvest	Yield lbs. per A.	No. irrig- ations
1	Win- ters	Yolo silty clay loam	Milo	D.D. 38	Early June	7.5	44"	Nov.	5200	Flood 3
2	Elmira	Yolo fine sandy loam shallow phase	Saf- flower	D.D. 38	April 15	10	30"	Oct. 1	3200	1
3	Elmira	Olcott fine sandy loam	Safflower Tomatoes Pasture	D.D. 38	Late April	8	30"	Early Oct.	2923	3
4	Vaca- ville	Zamora clay loam	Wheat	D.D. 38	April	8	50"	Oct.	1300	1
5	Dixon	Yolo silty clay loam and Zamora silty clay loam	Sugar beets	D.D. 38	First of May	7	28"	Oct. 1	4016	2
6	Dixon	Yolo silty clay loam	Bar- ley	Ryer 15	June	25	30"-	First of Nov.	3920	Pre- irrig. 2
7	Dixon	Yolo silty clay loam	Tur- nips	Ryer 15	Late June	28	20"	Late Oct.	3380	Pre- irrig. 2
8	Dixon	Capay clay	Bar- ley	Ryer 15	Late May	31	22"	Nov.	3182	3
9	Dixon	Yolo silty clay loam	Pas- ture	D.D. 38	First of May	5	36"	Oct.	2270	2
10	Rio Vista	Sacramento mucky loam	Al- falfa	Ryer 15	May 1	28	22"	Sept.	2500	3
11	Hast- ings	Sacramento mucky loam	Varied	D.D. 38	April 6	15	24"	Oct.	2275	Pre- irrig. 3
12	Hast- ings	Sacramento mucky loam	Varied	Ryer 15	First of April	25- 35	24"	Aug. 15- Sept. 15	1950	Pre- irrig. 3

Average 3009

DELTA

No.	Dist- trict	Soil Type	Pre- vious Crop	Variety	Date Plant- ing	Rate of Seeding lbs./A.	Row width inch.	Date of Harvest	Yield lbs. per A.	No. irrig- ations
1	Ryer Island	Columbia silty clay loam	Aspa- ragus	Ryer 15	June	30	22"	October	6500	Pre- irrig.
2	Ryer Island	Columbia silty clay loam	Beets Grain	D.D. 38	Late April	25	26"	Oct. 1	5000	Sub- irrig.
3	Ryer Island	Egbert loam	Field Corn	Ryer 15	May 20-25	24	22"	Mid Sept.	4750	Sub- irrig.
4	Ryer Island	Egbert clay loam, and Columbia silty clay loam	Sugar beets	D.D. 38 Caprock	Late April	9	24"	October	4650	Sub- irrig.
5	Ryer Island	Columbia silty clay loam	Beets Grain	Ryer 15	May 1	25	26"	Sept. 15	4550	Sub- irrig.
6	Pros- pect	Muck and Peat	Milo Beans	Ryer 15	Late May	28	18"	Mid Oct.	4540	Sub- irrig.
7	Ryer Island	Columbia silty clay loam and Egbert loam	Misc.	D.D. 38 Caprock Ryer 15	April April May	7 15 25	28"	Oct.	4500	Sub- irrig.
8	Ryer Island	Columbia silty clay loam	Toma- toes	D.D. 38	April 24	10	28"	Oct. 24	3220	Sub- irrig.
9	Ryer Island	Egbert Loam	Peas Beets Barley	D.D. 38 Caprock Ryer 15	April 20 May 15	10 15 25	24"	Sept. 20- Oct. 30	4833	Sub- irrig.
10	Egbert Dist.	Egbert loam	Grain Milo	Ryer 15	May 20	25	26"	Oct. 1-15	3000	1
11	Egbert Dist.	Egbert loam	Hay	Ryer 15	June 1	35	20"	Nov. 1	2000	Pre- irrig. 2

Average 4322

CONCLUSIONS

1. The largest grain sorghum yields were secured in the Delta where soils are fertile, and soil moisture is available throughout the growing season.
2. It is possible to grow more than 5,000 lbs. of threshed milo per acre on loam soils outside the Delta, if sufficient fertilizer and irrigation water are applied.
3. Double Dwarf milo 38 usually produces heavier than Ryer 15 if planted no later than early May, and the crop can be harvested in October.
4. June plantings of Ryer 15 produced good yields and the crop can be harvested in October.
5. Seeding rates of 7 to 8 lbs. per acre of Double Dwarf 38 milo produced the best yield on irrigated land.
6. A seeding rate of $2\frac{1}{2}$ to 3 lbs. per acre produced the best yield of Double Dwarf 38 milo on dry land.
7. Seeding rates of 24 to 30 lbs. per acre produced the best yield of Ryer 15 on dry land.
8. A 13 lb. seeding rate produced the best yield of Ryer 15 on dry land.
9. Double Dwarf Yellow Sooner was the best yielding variety on dry land.
10. Row spacings varied from 18 inches to 50 inches and seemed to have little effect on yield.
11. Soil type and previous crop made very little difference in yield.