FOREWORD

ROYAL SLOPE

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AGRICULTURAL DEVELOPMENT

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We trust this information will be of value to the Royal City Chamber of Commerce in pursuance of their objective to better the economic status of Royal Slope.

This report was prepared by Douglas F. Burk for the Public Utility District of Grant County, Ephrata, Washington.

Axel E. Strom Director of Utilization

Public Utility District of Grant County

August 1965

Public Utility District of Grant County Ephrata, Washington

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FOREWORD

At the request of the Royal City Chamber of Commerce and its various civic leaders, the Public Utility District of Grant County prepared the attached report on the agricultural status and economic development of Royal Slope from the latest data available. For the most part, this report covers the acreages and yields of crops grown on the Slope in 1964; however, it also reveals the progress and growth experienced during the previous two years on the Slope.

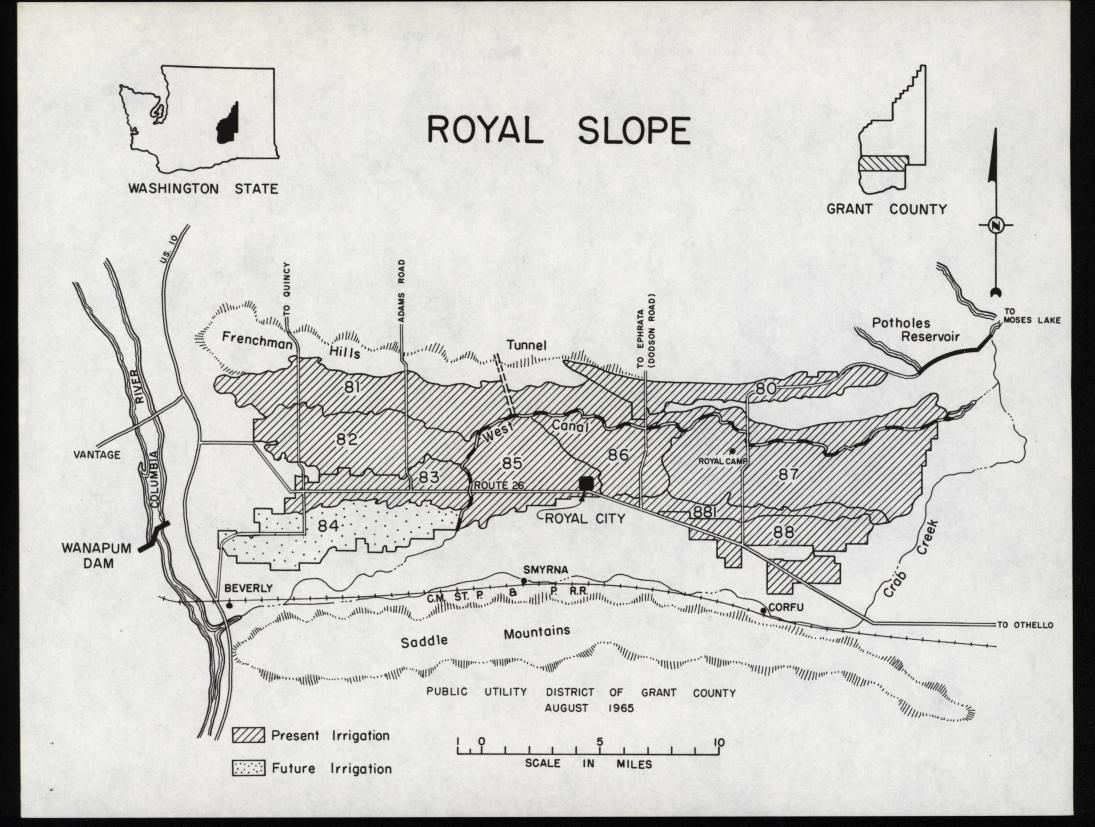
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ROYAL SLOPE AGRICULTURE 1964

Royal Slope's agricultural progress is easily recognized in an eye appealing view from any elevated position on the Frenchman Hills. Not only is additional land being farmed each year but the number of farm homes and building is steadily increasing. Orchards are becoming prevalent and readily landmark the area.

As the Slope grows into maturity, so does Royal City, the center of the Slope's business and social activities. Reflecting the increase in the area's agricultural activity, several significant advances have been made in Royal City during the past two years (1964 and 1965) that are worthy of mention.

- 1. Starting in September 1964 classes were held in the newly completed Royal City High School. Royal City reported 336 students enrolled in the elementary grades, 123 enrolled in the Junior High School and 100 in the Senior High School.
- 2. Authorization for a post office was granted in June 1964. In August the Poarch building was completed and the post office, the Titan Cafe and Miller's Pharmacy leased space.
- 3. Royal City received approval as a community qualified for F. H. A. (Federal Housing Administration) loans in the fall of 1964.
- 4. A new well and a 100,000 gallon storage tank were added to Royal City's water supply in 1965.
- 5. A new municipal sewer system was also completed in 1965 to meet the growing needs of the community.

Many other businesses expanded their operations, built new plant facilities and/or opened stores and offices in Royal City during this period. Royal City's population reflected this growth. In 1963, 1964 and 1965, the reported population of the community was 301, 328 and 400 respectively.

Of the five church denominations in Royal City, the Methodist, Nazarene and Catholic congregations now have their own churches and the Baptist congregation has a building program started. The Lutheran congregation is the fifth denomination in Royal City.

Royal City is the hub of Royal Slope's farming activity principally

because of its central location and, in part, because of its distance from neighboring communities. The following table reveals the distance to neighboring communities and their respective populations.

TABLE I

Comparison of distance to and population of Royal City's neighboring communities:

Neighboring Community	Distance To	Population*
Moses Lake	34	11,000
Ephrata	33	7,000
Quincy	31	3,380
Othello	24	3, 297
George	22	300
Beverly	18	
Wanapum	18	
Smyrna	7	

^{*} Washington State Department of Health

Royal Slope is in a sense isolated. Located in the southern half of the Quincy Irrigation District, the Slope is an area approximately eleven miles wide, bounded on the north by the Frenchman Hills and on the south by the Saddle Mountains. It is 32 miles long, reaching nearly to the Columbia River on its west boundary and to the Columbia National Wildlife Refuge on its east side.

Although water was first delivered to the Quincy Irrigation District in 1952, Royal Slope did not receive irrigation water until 1956. The Slope is divided into ten irrigation blocks and, when it reaches full development, 90,504 acres of land will be irrigable. Eight of these ten irrigation blocks were receiving water in 1964. Only Blocks 81 and 84 remained undeveloped in 1964. The irrigable area of the eight irrigation blocks receiving water in 1964 was 69,980 acres or 77 percent of the ultimate irrigable acreage. In 1965 Block 81 added 13,853 acres to the existing irrigable area, bringing the total to 83,833 irrigable acres. Table II shows the year each block received or is to receive water, the farm units and net irrigable acreage in each block.

TABLE II ROYAL SLOPE - DEVELOPMENT POTENTIAL

Irrigation Blocks	Year Water _Available	Farm Units _Planned	Net Acreage Irrigable
. 80	1962	102	10, 397
81	1965	124	13, 853
82	1960	105	9,448
83	1961	68	6,837
84	1972	55	6,671*
85	1959	120	9,596
86	1956	91	7,030
87	1956	218	17,781
88	1961	56	6, 442
881	1960	_22	2, 449
	TOTAL	<u>961</u>	90,504

^{*} From preliminary unpublished land development schedule dated September 30, 1964.

SOURCE: U. S. Bureau of Reclamation, Columbia Basin Project Land Development Schedule, April 1965.

Not all of the irrigable acreage has been developed. Land development is a gradual but progressive process and there are both undeveloped and partially developed units within each block. See Table III.

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TABLE III 1964 ROYAL SLOPE AGRICULTURAL STATISTICS

Irrigation Blocks	Irrigable Area of Units Re- ceiving Water	Acreage in Irrigation Rotation	Acreage of Crops Harvested*	Acreage Gravity Irrigated	Acreage Sprinkler Irrigated	Units Farmed	Farm Pop.
80	6,562	5,602	5,037	4,870	503	65	93
81							
82	8,013	7,317	6,837	6,382	551	85	99
83	6,316	5,636	6,115	3, 172	2,322	63	65
84							
85	7,609	6,669	6,553	5,977	606	97	90
86	6, 214	5,325	5, 242	4,678	592	80	164
87	17,395	15, 281	13,860	11,451	3,565	210	412
88	5, 248	4,555	4, 466	3,832	603	45	104
881	1, 169	885	740	683	157	_11	15
TOTAL	58,526	51, 270	48,850	41,045	8,899	656	1,042

^{*} Includes multiple crop acreage. Excludes acreage of crops on Class 6 land.

The irrigable acreage of units developed or partially developed in 1964 totaled 58,526 acres or 83.6 percent of the irrigable area (irrigation blocks) then receiving water or 64.7 percent of full development. The total acreage in irrigated rotation was 51,270 acres or better than 13 percent greater than that reported in 1963. The harvested crop acreage increased 12 percent from 1963 to 1964 and the tonnage of crops harvested jumped 8 percent. The progress that each block has made toward full service, i.e., full development is revealed by the bar chart on page 6. Comparison of these various progress indicators is shown in Table IV for the years 1962, 1963 and 1964.

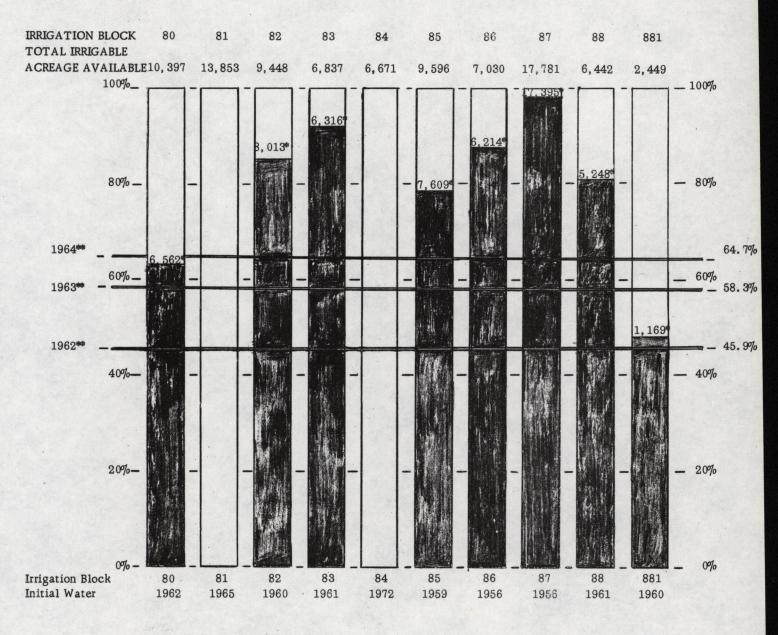
TABLE IV ROYAL SLOPE DEVELOPMENT 1962, 1963 and 1964

	1962	1963	Ir	Percent acrease 1963-64
Irrigable acreage of units receiving water	$\frac{1902}{41,535}$			
Acreage in irrigation rotation	35,611	45,098	51, 270	13.7%
Acreage of crops harvested*	31, 150	43,565	48,850	12.1%
Approximate tonnage of crops harvested	148,557	242,913	262, 421	8.0%
Acreage gravity irrigated	29,678	37,570	41,045	9.2%
Acreage sprinkler irrigated	4,797	6,749	8,899	31.9%
Units farmed	481	598	656	9.7%
Population: Farm	690	899	1,042	15.9%
Population: Royal City	**	301	328	9.0%

^{*} Includes multiple crop acreage. Excludes acreage of crops on Class 6 land.

^{**} Incorporated 1962.

PERCENT OF IRRIGABLE ACREAGE RECEIVING WATER ON ROYAL SLOPE 1964



		Acres	Percent
Irrigable area of Units Receiving Water	1962	41,535	45.9%
on Royal Slope (90, 504 acres = 100%)	1963	52,736	58.3%
	1964	58, 526	64.7%

^{*}Irrigable Acreage of Units Receiving Water (by Block)

Source: U.S. Bureau of Reclamation, Columbia Basin Project Crop Reports

^{*}Percent of Irrigable Area Developed on Royal Slope

The Public Utility District of Grant County had 140 irrigation accounts on Royal Slope in 1964 with a total rating of 3, 406 horsepower. The acreage of farmland under sprinkler irrigation increased by more than 31 percent (2, 150 acres) in 1964. See Table V for the number of irrigation accounts, the total horsepower rating and the acreage sprinkler irrigation for 1963, 1964 and 1965.

TABLE V SPRINKLER IRRIGATION ON ROYAL SLOPE

	1963	1964	1965*
PUD Irrigation Accounts	105	140	153
Horsepower Rating	2,568	3,406	3,800
Acreage Sprinkler Irrigated	6,749	8,899	

^{*} Preliminary data.

SOURCE: Public Utility District of Grant County.

ORCHARDS

Considerable interest has been expressed in orchard development on Royal Slope because of its relatively long frost free growing season. Apples and pears are the most popular fruit trees. The 1964 USBR Crop Report shows 184 acres of apple trees and 77 acres of pear trees "bearing" fruit. Actually more than 937 acres of orchards are planted on the Slope at the present time, however, only 290 acres of orchards were classified as "bearing" by the USBR. Table VI reveals the acreage of orchard crops by irrigation block.

TABLE VI 1964 ORCHARD ACREAGE - TOTAL PLANTING

Block No.	Apples	Cherries	Peaches	Pears	Prunes
80	99	4			
82	6	6		12	
83					
. 85	13		7	20	
86	188.5	39.5	3	82	
87	196.5	116.0	26.5	88.5	10
88		20.0			
881	<u></u>		<u></u>	<u></u> -	<u></u>
TOTAL	503.0	185.5	<u>36.5</u>	202.5	10

SOURCE: U. S. Bureau of Reclamation and others.

1964 CROP PRODUCTION

With a 12 percent increase in the crop acreage harvested and an 8 percent increase in tonnage of crops harvested, Royal Slope can be proud of its development progress this past year. More than forty different crops were grown on Royal Slope in 1964. Seven crops - alfalfa, wheat, dry and edible beans, potatoes, sugar beets, pea seed and irrigated pasture - accounted for 85.7 percent of the acreage cropped. Alfalfa and wheat were the two largest crops, with 15, 488 acres and 9,582 acres respectively. Of the eight irrigation blocks presently developed, Block 87 is the largest (17,781 acres) and best developed (17,395 acres). It accounted for 28 percent of the total crop acreage harvested on the Slope and contributed significantly to the acreage production of the Slope's leading crops. The relative importance of these seven crops to Royal Slope's crop production and of Block 87's contribution is shown in Table VII.

The total acreage of crops harvested on the Slope in 1964 was 48,850 acres of which 1,846 were mulitple cropped; that is, more than one crop was harvested from the land during the farming period. Most of the multiple cropping was done on alfalfa acreage. Table VIII reveals the acreage of the various crops in each irrigation block.

Yields on each crop are shown in Table IX. Of note, both the acreage and yields of orchard crops, as reported in this table, may be misleading to the reader. Only those orchards classified as "bearing" are reported. Yields on orchard crops vary as to the maturity of the trees. Many orchards on Royal Slope are new and haven't reached maturity. In fact, only 31 percent of the orchard acreage on the Slope is in a "bearing" status.

Crop acreage, yields and average yields, and tonnages are reported in Table X. Total tonnage produced in 1964 is approximately 51 percent of the estimated tonnage that the Slope would produce at full development. Losing the same criteria, Royal Slope's crop production (acreage) is approximately 55 percent of full development.

Yes, progress is evident to those who live on or travel across Royal Slope. This area is in its youth, it is energetic, and those who live here and those who farm here are dedicated to its continued development.

1/ Table XI, Page 19, Royal Slope Agriculture and Projected Crop Production Estimates, Public Utility District of Grant County, January 1964.

TABLE VII RELATIVE IMPORTANCE OF TOP SEVEN CROPS ON ROYAL SLOPE IN 1964

		Alfalfa Hay*	Wheat*	Dry & Edible Beans	Early & Late Potatoes	Sugar Beets	Pea Seed*	Irrigated Pasture	Other*	Total
	Crop acreage	15, 488	9,582	5,661	4,862	2,775	2, 393	1,091	6,998	48, 850
	Percent of total crop acreage harvested	31.7%	19.6%	11.6%	10.0%	5.7%	4.9%	2. 2%	14.3%	100%
-9-	Crop acreage in Block 87	4,941	2,767	1, 152	565	1,076	755	710	1,894	13, 860
	Percentage of crops produced in Block 87	31.9%	28.9%	20.3%	11.6%	18.6%	31.6%	65.1%	27.1%	28.4%

^{*} Includes multiple crop acreage

TABLE VIII 1964 CROP ACREAGE ON ROYAL SLOPE REPORTED BY IRRIGATION BLOCK

IRRIGATION BLOCKS	80	82	83	<u>85</u>	86	<u>87</u>	88	881	TOTAL
CEREAL CROPS - 12, 25	2 acres								
Barley	9	58	123	45	35	222	32	20	- 15.44
Corn	130			104	122	483	51	20 52	544
Oats	10	40	20	15	122	73		52	942
Rye			3	7		73			158
Sorghums					828	2			10
Wheat	1798	1094	1277	1741	020	2762	752	143	830 9567
Wheat, M/C				10		5	752	143	
Mixed Grain	18	10		6		112		40	15 186
FORAGE CROPS - 18, 204		10		·		112		40	100
Alfalfa Hay, Est.	1122	2188	1947	1503	1739	4456	333	132	13420
Alfalfa, M/C		139	776	182	21	163	98	152	1379
Alfalfa, N/S		174	151	42		322			689
Grass Hay				12		4		×	16
Grass Hay, M/C					8		70		78
Other Hay		127	744	76	22	809 GBJ GBJ			969
Other Hay, M/C		18	70			40			128
Irrigated Pasture	12		47	99	127	710	96		1091
Silage		57	50	17	26	209	30	20	409
Silage, M/C		25				20)		20	25
MISCELLANEOUS FIELD	CROPS		0 acres						20
Beans, Dry & Edible	606	1122	387	717	477	1152	1030	170	5661
Peppermint	60	SEC 185 CES		159	239	177			635
Spearmint				50	14				64
Sugar Beets	86	en en 123	12	499	632	1076	452	18	2775
Garbanzos					5				5
VEGETABLE CROPS - 5,	266 acr	es							3
Rutabagas						4			4
Corn, Sweet	28			18		85			131
Watermelons			in en				60		60
Onions, Dry	11	10				4	150		175
Peas, Green, Canning		25							25 /
Potatoes, Early	867	141	68	283	195	521	610	105	2790
Potatoes, Late	131	870	60	468	202	44	287	10	2072
Tomatoes	8								8
Melons						1			1
NURSERY CROPS - 1 acr	re								-
Hop Roots	1							/	1

TABLE VIII (cont.) 1964 CROP ACREAGE ON ROYAL SLOPE REPORTED BY IRRIGATION BLOCK

IRRIGATION BLOCKS	80	82	83	85	86	87	88	881	TOTAL
SEED CROPS - 3,687 acre	es								
Alfalfa Seed		17	50	88	41	323	43		562
Alfalfa Seed, M/C		70		29	30				129
Clover Seed, Red		254	40	39		45			378
Clover Seed, M/C				50					50
Clover Seed, Other		40							40
Pea Seed	140	323	290	230	273	755	310	30	2351
Pea Seed, M/C				42					42
Radish Seed		25							25
Bean Seed							60		60
Turnip Seed		10							10
Mustard Seed				22					22
Grass Seed					8				8
Orchard Grass						10			10
FRUITS - 291 acres									and T
Apples					132	52			184
Cherries					8	6			14
Peaches				\	3	12			15
Pears					55	22			77
Berries						1			1
FAMILY GARDENS - 9 ac	res								
Gardens						7	2		9
TOTALS	5037	6837	6115	6553	5242	13860	4466	740	48850

M/C - Multiple Cropped; N/S - New Seeding

TABLE IX 1964 CROP PRODUCTION YIELDS ON ROYAL SLOPE REPORTED BY IRRIGATION BLOCK

IRRIGATION BLOCK	CS	80	82	83	85	86	87	88	881	TOTAL
CEREAL CROPS										
Barley	bu	675	6145	7740	2718	2465	14888	766	1400	36797
Corn	bu	11466			12020	12275	52411	4302	4575	97049
Oats	bu	200	1440	1200	930		5367			9137
Rye	bu			36	308					344
Sorghums	bu					66145	100	Augustus.		66245
Wheat		123429	73018	106581			218466	54807	10105	720798
Wheat, M/C	bu				300		370			670
Mixed Grain	bu	720	100		330		5600		3600	10350
FORAGE CROPS										
Alfalfa, Est.	ton	5498	10893	10179	8212	9356	25405	1410	500	71453
Alfalfa, M/C	ton		109	1307	385	42	178	124		2145
Alfalfa, N/S	ton		453	151	49		792			1445
Grass Hay	ton				30		8)		38
Grass Hay, M/C	ton					8	/-	95		103
Other Hay	ton		148	944	109	44				1245
Other Hay, M/C	ton			70			42			112
Irrigated Pasture	AUM	85	138	364	840	1517	5736	209		8889
Silage	ton		855	1000	407	656	3612	344	240	7114
Silage, M/C	ton		375							375
Straw, All Kinds	ton	1		60						61
MISCELLANEOUS F	FIELD									
Beans, Dry & Edible	cwt	8956	20486	7538	15566	9293	21428	22276	3600	109143
Peppermint	lbs	3720			9750	14215	9586			37271
Spearmint	lbs				3000	1050				4050
Sugar Beets	ton	1901		269	8807	14295	23376	10054	324	59026
Garbanzos	ton					2				2
VEGETABLE CROPS	S									
Rutabagas	ton						40			40
Corn, Sweet, P	ton	196			54		398			648
Watermelons	ton			24				480		480
Onions, Dry	cwt	4300	4000				1200	76000		85500
Peas, Green, C	ton		12							12
Potatoes, Early	cwt	296220	39400	25080	67440	58800	166980	198100	30000	882020
Potatoes, Late	cwt	52400	290140	14400	124560	57380	13040	112080	2400	666400
Tomatoes	lug	5000								5000
Melons	crate	e					150			150
NURSERY CROPS										
Hop Roots	M	10								10

TABLE IX (cont.)
1964 CROP PRODUCTION YIELDS ON ROYAL SLOPE
REPORTED BY IRRIGATION BLOCK

IRRIGATION BLOCK SEED CROPS	.S	80	82	83	85	86	87	88	881	TOTAL
Alfalfa Seed	cwt		37	66	176	112	929	129		1449
Alfalfa Seed, M/C	cwt		165		29	300				494
Clover Seed, Red	cwt		994	170	96		262			1522
Clover Seed, M/C	cwt				150					150
Clover Seed, Other	cwt		360							360
Pea Seed	cwt	3187	4905	3440	4416	7362	15094	7997	450	46851
Pea Seed, M/C	cwt				392					392
Radish Seed	cwt		250							250
Bean Seed	cwt							600		600
Turnip Seed	cwt		100							100
Mustard Seed	cwt				264					264
Grass Seed	cwt					116				116
Orchard Grass Seed	cwt						20			20
FRUITS										
Apples	cwt		7-1-			9450	2885			12335
Cherries	cwt					180	260			440
Peaches	cwt					60	489			549
Pears	cwt					1482	3650			5132
Berries	cwt						90			90

 $\rm M/C$ - Multiple Cropped; N/S - New Seeding; AUM - Animal Unit Month, Est. - Established; P - Processing; C - Canning; M - Thousand.

TABLE X 1964 ROYAL SLOPE CROP PRODUCTION

	TOTAL CROP		OP YIE	LD	CROP				
CROPS	ACREAGE	TOTAL		AVG.	TONNAGE				
CEREAL CROPS									
Barley	544	36,797	bu.	67.6	883				
Corn	942	97,049	bu.	103.0	2,717				
Oats	158	9,137	bu.	57.8	146				
Rye	10	344	bu.	34.4	10				
Sorghums	830	66, 245	bu.	79.8	1,656				
Wheat	9,567	720,798	bu.	75.3	21,624				
Wheat, M/C	15	670	bu.	44.7	20				
Mixed Grain	186	10,350	bu.	55.6	248				
FORAGE CROPS									
Alfalfa, Est.	13, 420	71,453	ton	5.3	71, 453				
Alfalfa, M/C	1,379	2, 145	ton	1.6	2, 145				
Alfalfa, N/S	689	1,445	ton	2.1	1,445				
Grass Hay	16	38	ton	2.4	38				
Grass Hay, M/C	78	103	ton	1.3	103				
Other Hay	969	1,245	ton	1.3	1, 245				
Other Hay, M/C	128	112	ton	.9	112				
Irrigated Pasture	1,091	8,889	AUM	8.1					
Silage	409	7,114	ton	17.4	7, 114				
Silage, M/C	25	375	ton	15.0	375				
Straw, All Kinds		61	ton		61				
MISCELLANEOUS FIELD CROPS									
Beans, Dry & Edible	5,661	109, 143	cwt	19.3	5, 457				
Peppermint	635	37, 271	lbs	58.7	19				
Spearmint	64	4,050	lbs	63.3	2				
Sugar Beets	2,775	59,026	ton	21.3	59,026				
Garbanzos	5	2	ton	. 4	2				
VEGETABLES									
Rutabagas	4	40	ton	10.0	40				
Corn, Sweet, P	131	648	ton	4.9	648				
Watermelons	60	480	ton	8.0	480				
Onions, Dry	175	85,500	cwt	488.6	4, 275				
Peas, Green, C	25	12	ton	. 5	12				
Potatoes, Early	2,790	882,020	cwt	316.1	44, 101				
Potatoes, Late	2,072	666, 400	cwt	321.6	33, 320				
Tomatoes	8	5,000	lug	625.0	80				
Melons	1	150		150.0	6				
NURSERY CROPS		100	0100		·				
Hop Roots	1.	10	M	10.0					
110P 110010		10	141	10.0					

TABLE X (cont.)
1964 ROYAL SLOPE CROP PRODUCTION

	TOTAL CROP	CROP YIELD			CROP	
CROPS	ACREAGE	TOTAL		AVG.	TONNAGE	
SEED CROPS						
Alfalfa Seed	562	1,449	cwt	2.6	72	
Alfalfa Seed, M/C	129	494	cwt	3.8	25	
Clover Seed, Red	378	1,522	cwt	4.0	76	
Clover Seed, M/C	50	150	cwt	3.0	8	
Clover Seed, Other	40	360	cwt	9.0	18	
Pea Seed	2,351	46,851	cwt.	19.9	2,343	
Pea Seed, M/C	42	392	cwt	9.3	20	
Radish Seed	25	250	cwt	10.0	13	
Bean Seed	60	600	cwt	10.0	30	
Turnip Seed	10	100	cwt	10.0	5	
Mustard Seed	22	264	cwt	12.0	13	
Grass Seed	8	116	cwt	14.5	6	
Orchard Grass Seed	10	20	cwt	2.0	1	
FRUITS						
Apples	184	12,335	cwt	67.0	617	
Cherries	14	440	cwt	31.4	22	
Peaches	15	549	cwt	36.6	27	
Pears	77	5, 132	cwt	66.6	257	
Berries	1	90	cwt	90.0	5	
FAMILY GARDENS	9				200	
TOTAL ACRES	48,850	TOTAL TONNAGE 262, 421				

 $\rm M/C$ - Multiple Cropped; N/S - New Seeding; P - Processing; C - Canning; AUM - Animal Unit Month; M - Thousand.