

CROP DAMAGE CANADA GEESE, LAKE ST-PETER
AND ST-LOUIS - ST-ROBERT AREAS

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CROP DAMAGE CANADA GEESE, LAKE ST-PETER
AND ST-LOUIS - ST-ROBERT AREAS

A Progress Report

Introduction

The present report summarizes observations on Canada geese using agricultural fields in the Lake St. Peter and St. Louis - St. Robert areas during spring 1975. These observations complement similar data gathered during the spring of 1974 (Reed 1974).

Method

A standard route was established for each subsection of the study area and followed 2-3 times each week (Appendix II). Flock size, number of geese and utilization of different field types for resting and feeding were recorded on a standard data sheet (Appendix 12).

Study area

The study area was subdivided for the purposes of this study into an upland and a lowland section; the latter section being further subdivided into three zones. The lowland farmland portion immediately borders on the southeast shoreline of Lake St. Peter; the main field types are: first year grass and clover,

ploughed grassland and stubble, ploughed cornfield and finally abandoned field (unutilisation in 1974 for agricultural purposes). These different zones were identified along the standard census route of this area, based on the extent and severity of flooding. The most easterly zone (Nicolet to OP₅) was completely flooded during the entire spring, the middle zone (OP₅ - Baieville) was partially flooded and the remaining portion (Baieville westward) was flooded only slightly and mainly during the period of peak snow melt.

The upland portion (St. Louis - St. Robert area) is situated approximately 15 km south-west of Lake St. Peter. Field types of this area are, with one exception, the lawn sod, similar to the lowland portion and availability of fields is much the same. Those fields are well irrigated and wet conditions prevail only during the peak period of snow melt.

Results

In the Lake St. Peter area, Canada geese were found mainly in fields of grass and clover (63.3% of all geese observed, N = 156,099). Corn fields (ploughed cornfield and corn stubble) received 19.0% of total goose use. Ploughed grassland and abandoned fields accounted for 9.1% and 8.6% of total goose sightings respectively (Table 1).

Table 1. Types of field used by Canada Geese in the lowland part of Lake St-Peter area.

Type of field	% of total acreage	% of total number of geese	Index of usage
First year grass and clover	2.4	5.5	2.29
Second year and older grass and clover	41.2	57.8	1.40
Ploughed grassland	13.0	9.1	.70
Corn stubble	4.1	7.9	1.93
Ploughed corn	16.0	11.1	.69
Abandoned field	23.3	8.6	.37

When usage by geese is adjusted to account for the availability of different field types (we used an "Index of usage" based on % geese observed in field type A \div % acreage of field type A) first year growth of grass and clover were utilized much more than expected (2.29 times greater than expected on the basis of acreage).

Older grass - and - clover fields and corn stubble were utilized roughly in proportion to their availability. A seasonal breakdown of the data is presented in Table 2. Early in the season, intensive use was made of first year grass - and - clover and corn stubble while a decreasing use occurs later on. Ploughed cornfield showed a moderate use by geese during the early season but decreasing afterward. Second year and older grass - and - clover was used moderately with a very slight increase before the departure of the geese. Ploughed grassland was subjected to low use by geese during early season with an increasing in late season. Precaution must be taken, however, on interpreting index of usage for the late season period because of the small sample size.

Index of usage has also been computed for the three subdivisions of the standard route (Table 3). The proportion of geese which were feeding when censused in each of the three zones was 27%, 40% and 66% respectively, indicating the

Table 2. Field utilization in early, mid and late season by Canada geese in the lake St-Peter area.

Type of field	up to 30 april	1-7 may	after 7 may
First year grass and clover	3.91	1.20	-
Second year and older grass and clover	1.11	1.59	1.88
Ploughed grassland	.53	.80	1.34
Corn stubble	2.02	1.85	.53
Ploughed corn	1.22	.34	.08
Abandoned field	.42	.33	.06
Number of geese	62 771	91 477	1 831
% feeding	59.86 ()	39.70	23.70

Table 3. Index of usage in the three subdivisions of the Lake St-Peter area.

	Nicolet-OP5	OP5-Baieville	Baieville west
First year grass and clover	9.30	.43	6.11
Second year and older grass and clover	1.55	1.44	1.03
Ploughed grassland	2.93	.64	.21
Corn stubble	-	.95	2.54
Ploughed corn	.70	.65	-
Number of geese	24 745	71 779	59 555
Percent feeding	22%	40%	66%

importance of the eastern zone as a resting (non-feeding) area. The western zone being the most important zone for feeding is probably more comparable with the upland portion.

In the upland St. Louis - St. Robert area, Canada geese were observed mainly in corn fields (corn stubble and ploughed corn): 69.1% of all geese observed, N = 25,906. Ploughed grassland accounted for 22.5% of the total geese. Second year and older grass and clover was used by 8.4% of the geese. No geese were observed in first year grass and clover. In contrast to the lowland part, corn stubble and ploughed corn accounted for the higher index of usage: 2.64 and 2.30% respectively. Ploughed grassland was utilized roughly in proportion to its availability (1.41) and older grass and clover fields showed a .50 index of usage (Table 4).

The geese abandoned the upland portion earlier than the lowland portion. For this reason, the index of usage can be computed for only the two earliest of the three periods of the season (Table 5). Corn stubble and ploughed corn had an index of usage greater than one for both periods. The high percentage of geese observed in corn field types (69.1%) with a high intensity of feeding (Table 6) demonstrates a marked preference for this kind of culture on the upland.

Table 4. Types of field used by Canada geese in the upland part of St-Louis - St-Robert area.

Type of field	% of total acreage	% of total no. of geese	Index of usage
First year grass and clover	5.7	-	-
Second year and older grass and clover	42.9	8.4	.50
Ploughed grassland	15.9	22.5	1.41
Corn stubble	20.7	54.8	2.64
Ploughed corn	6.0	14.3	2.38
Abandoned field	1.7	-	-
Lawn sod	7.1	-	-

Table 5. Field utilization in early, mid and late season by Canada geese in the St-Louis - St-Robert area)

Type of Field	up to 30 april	1-7 may	after 7 may
First year grass and clover	-	-	-
Second year and older grass and clover	.14	.33	
Ploughed grassland	1.92	-	-
Corn stubble	2.21	3.81	-
Ploughed corn	2.81	1.15	-
Abandoned field	-	-	-
Lawn sod	-	-	-

Table 6. Intensity of feeding for each field type in the St-Louis - St-Robert area.

	No. of geese observes	No. of feeding geese	% of feeding
First year grass and clover	-	-	-
Second year and older grass and clover	2173	743	34.1
Ploughed grassland	5850	112*	74.6*
Corn stubble	14209	1954	13.7
Ploughed corn	3704	1644	-
Abandonned field	-	-	-
Lawn Sod	-	-	-

* The 112 feeding geese were in a flock of 150 geese. For the remaining 5700 geese it was impossible to determine the % of feeding because of their distance from the observer.

Summary

In the lowland part, first year grass - and - clover was used intensively early in the season and then declined in importance. Corn stubble was also used intensively but less than the first year grass - and - clover. The western zone of the lowland area represents the most important feeding ground for geese observed along the transect.

In the upland area geese showed a net preference for corn fields. We observed no utilization of first year grass - and - clover.

More data are presented in the appendices at the end of the present report.

Appendix 1. Occupation of different field types by Canada geese in Nicolet - OP₅ zone

	14-04-75	15-04-75	21-04-75	22-04-75	28-04-75	01-04-75	02-04-75	05-04-75	06-05-75	13-05-75	14-05-75	Total	% of geese (A)	% availability of fields (B)	Index of usage A/B
First-year grassland	--	--	--	--	--	554	--	--	125	--	--	679	2.8	.3	9.30
Second-year grassland	--	--	--	359	132	1989	--	5803	1560	400	400	10643	43.0	27.7	1.55
Ploughed grassland	--	--	--	3	4	2650	40	1250	707	--	--	4654	18.8	6.4	2.93
Corn stubble	--	--	--	--	--	--	--	--	--	--	--	--	--	2.1	--
Ploughed cornfield	--	--	--	--	--	--	--	1360	350	25	--	1735	7.0	9.9	.70
Abandoned field	--	--	2444	--	--	--	705	3802	56	15	12	7034	28.4	53.6	.52

Appendix 2. Occupation of different field types by Canada geese in OP₅ - Baieville zone

	14-04-75	15-04-75	21-04-75	22-04-75	28-04-75	01-04-75	02-04-75	05-04-75	06-05-75	13-05-75	14-05-75	Total	% of geese (A)	% availability of fields (B)	Index of usage A/B
First-year grassland	--	--	--	250	60	1296	485	45	6	--	--	1657	2.3	5.3	.43
Second-year grassland	--	--	552	3909	10595	13589	84	10745	9027	474	145	49521	69.0	47.7	1.44
Ploughed grassland	--	--	--	600	2500	683	1515	263	3150	145	175	7600	10.5	16.4	.64
Corn stubble	--	--	--	150	60	1000	13	--	--	12	28	2765	3.9	4.1	.95
Ploughed cornfield	--	--	--	1100	--	1557	--	109	960	--	--	3739	5.2	10.4	.50
Abandoned field	--	--	--	305	1314	800	2097	1300	684	--	--	6500	9.1	16.1	.56

Appendix 3. Occupation of different field types by Canada geese in Baieville West

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Appendix 4. Measure of feeding intensity of Canada geese at St-Louis - St-Robert

	16-04-75	17-04-75 (16:50)	17-04-75 (18:30)	21-04-75	22-04-75	24-04-75	28-04-75	01-05-75	02-05-75	06-05-75	14-05-75	$\frac{(\sum \text{F.B.}^*) \times 100}{\sum \text{O.B.}^{**}} = \%$
First-year grassland	--	--	--	--	--	--	--	--	--	--	--	0
Second-year grassland	--	--	320 (400) **	--	--	--	40 (800)	383 (898)	--	0 (75)	--	34.1
Ploughed grassland	--	--	112 (150)	--	? (4500)	--	? (1200)	--	--	--	--	74.6
Corn stubble	166 (208)	52 (55)	54 (102)	340 (400)	994 (2188)	13 (667)	22 (5200)	225 (5250)	26 (52)	62 (87)	--	13.7
Ploughed cornfield	150 (158)	--	1417 (1575)	? (1500)	--	--	--	8 (16)	--	69 (455)	--	74.6
Abandoned field	--	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--	--

* F.B. = Feeding birds

** O.B. = Observed birds are in brackets

Appendix 5. Measure of feeding intensity of Canada geese at Lake St. Peter

	14-04-75	15-04-75	21-04-75	22-04-75	28-04-75	01-05-75	02-05-75	05-05-75	06-05-75	13-05-75	14-05-75	$\frac{(\sum \text{F.B.}^*) \times 100}{\sum \text{O.B.}^{**}} = \%$
First-year grassland	--	2940 (3000)**	? (230)	78 (323)	2239 (2366)	796 (2200)	4 (4)	76 (190)	74 (250)	--	--	63.2
Second-year grassland	378 (495)	56 (259)	4959 (7152)	2806 (7305)	8352 (13615)	14820 (26802)	985 (1461)	10319 (18503)	2169 (13239)	215 (875)	129 (545)	50.0
Ploughed grassland	--	--	391 (558)	355 (1303)	1258 (2509)	1313 (3365)	108 (717)	292 (1553)	495 (3929)	18 (145)	8 (175)	29.7
Corn stubble	300 (345)	--	--	15 (1858)	2508 (3010)	580 (1150)	638 (3365)	-- --	130 (260)	12 (12)	--	34.2
Ploughed cornfield	13 (15)	5534 (5925)	1628 (1800)	2476 (4253)	(255) (300)	514 (2057)	146 (163)	302 (1310)	150 (25)	23 (28)	14	63.8
Abandoned field	--	--	370 (4444)	20 (400)	648 (1314)	485 (705)	170 (705)	1600 (5102)	259 (740)	8 (15)	7 (12)	26.5

* F.B. = Feeding birds

** O.B. = Observed birds are in brackets

Appendix 6. Measure of feeding intensity of Canada geese at Baieville West.

	14-04-75	15-04-75	21-04-75	22-04-75	28-04-75	01-05-75	02-05-75	05-05-75	06-05-75	13-05-75	14-05-75	$\frac{(\sum \text{F.B.}^*) \times 100}{\sum \text{O.B.}^{**}} = \%$
First-year grassland	--	2940 (3000)**	190 (230)	73 (73)	2185 (2300)	175 (350)	4 (4)	69 (145)	72 (119)	--	--	91.8
Second-year grassland	378 (495)	56 (259)	4959 (6600)	1320 (3037)	1296 (2888)	8516 (11224)	573 (976)	1060 (1955)	961 (2652)	--	--	63.5
Ploughed grassland	-- --	-- --	391 (558)	52 (700)	5 (5)	24 (32)	59 (593)	25 (40)	33 (73)	-- --	-- --	29.5
Corn stubble	300 (343)	--	--	8 (1708)	2460 (2950)	500 (2271)	637 (1850)	--	5 (260)	--	--	38.5
Ploughed cornfield	13 (15)	5534 (5925)	1628 (1800)	2146 (3153)	255 (300)	436 (500)	135 (150)	19 (23)	--	--	--	85.7
Abandoned field	--	--	--	--	--	--	--	--	--	--	--	--

* F.B. = Feeding birds

** O.B. = Observed birds are in brackets

Appendix 7. Measure of feeding intensity of Canada geese between OP₅ - Baieville

	14-04-75	15-04-75	21-04-75	22-04-75	28-04-75	01-15-75	02-05-75	05-05-75	06-05-75	13-05-75	14-05-75	$\frac{(\sum \text{F.B.}^*) \times 100}{\sum \text{N.O.}} = \%$
First-year grassland	--	--	--	5 (250) **	54 (60)	316 (1296)	--	7 (45)	0 (6)	--	--	23.1
Second-year grassland	--	--	229 (552)	1294 (3909)	970 (10595)	313 (13589)	412 (485)	7007 (10745)	1115 (9027)	141 (474)	32 (145)	45.5
Ploughed grassland	--	--	--	300 (600)	1250 (2500)	37 (683)	34 (84)	107 (263)	424 (3150)	62 (145)	25 (175)	29.1
Corn stubble	--	--	--	7 (150)	48 (60)	550 (1000)	1 (1515)	--	--	12 (12)	23 (28)	23.2
Ploughed cornfield	--	--	--	330 (1100)	--	78 (1557)	11 (13)	76 (109)	143 (960)	--	--	17.0
Abandoned field	--	--	142 (2500)	20 (400)	648 (1314)	403 (850)	--	1065 (1300)	237 (684)	--	--	38.7

* F.B. = Feeding birds

** O.B. = Observed birds are in brackets

Appendix 8. Measure of feeding intensity of Canada geese between Nicolet - OP₅

	14-04-75	15-04-75	21-04-75	22-04-75	28-04-75	01-05-75	02-05-75	05-05-75	06-05-75	13-05-75	14-05-75	$\frac{(\sum \text{F.B.}^*) \times 100}{\sum \text{N.O.}} = \%$
First-year grassland	--	--	--	--	--	305 (554)**	--	--	2 (125)	--	--	45.2
Second-year grassland	--	--	--	192	86	991	--	2252	93	82	62	35.3
Ploughed grassland	--	--	--	3 (3)	3 (4)	1252 (2650)	15 (40)	160 (1250)	38 (707)	--	--	31.6
Corn stubble	--	--	--	--	--	--	--	--	--	--	--	--
Ploughed cornfield	--	--	--	--	--	--	--	207 (1360)	7 (350)	23 (25)	--	13.7
Abandoned field	--	--	185 (2444)	--	--	--	170 (705)	535 (3802)	22 (56)	8 (15)	7 (12)	13.1

*

F.B. = Feeding birds

**

O.B. = Observed birds are in brackets

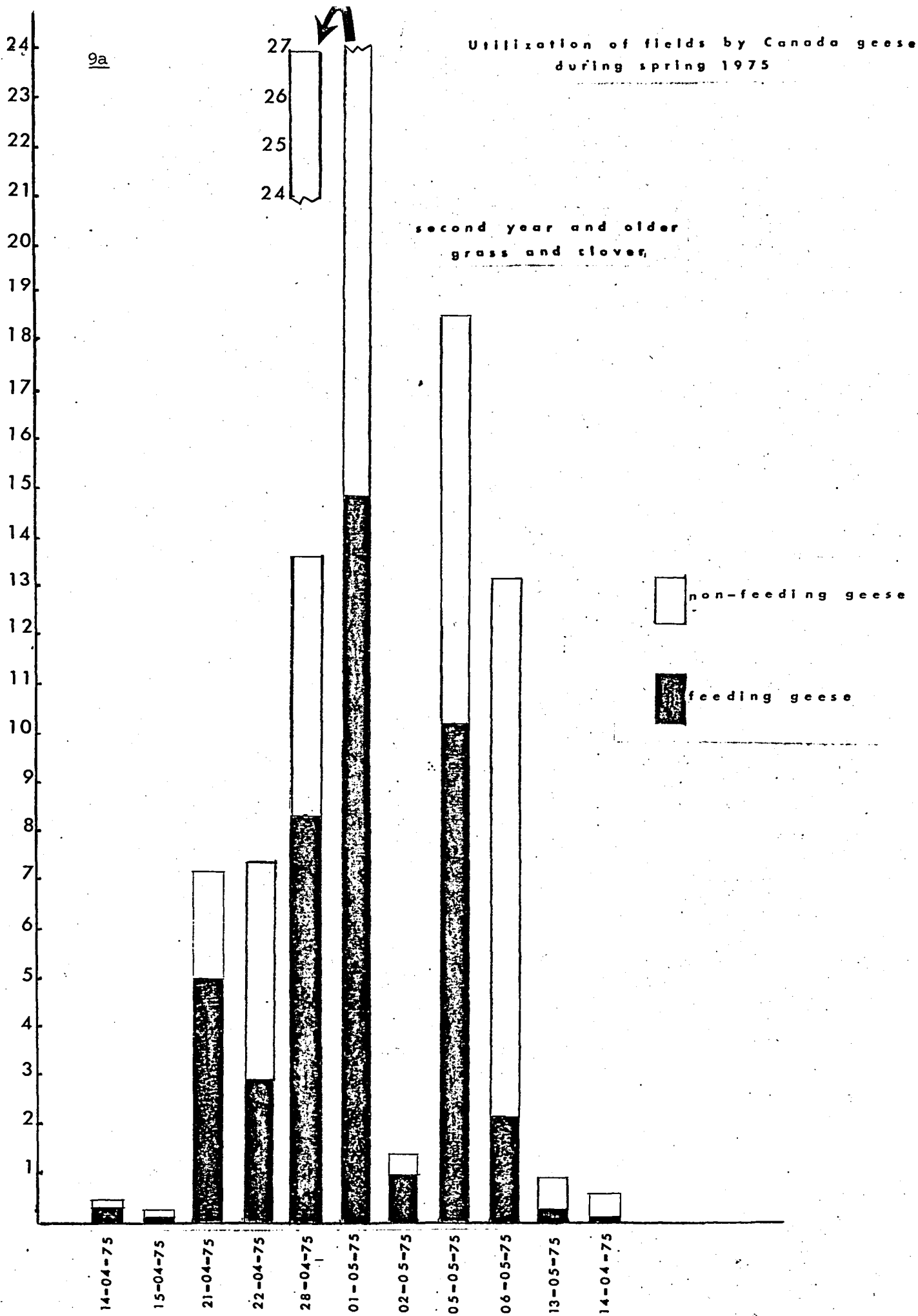
APPENDIX 9

Utilization of fields by Canada Geese in
the Lake St-Peter area (9a, 9b, 9c)

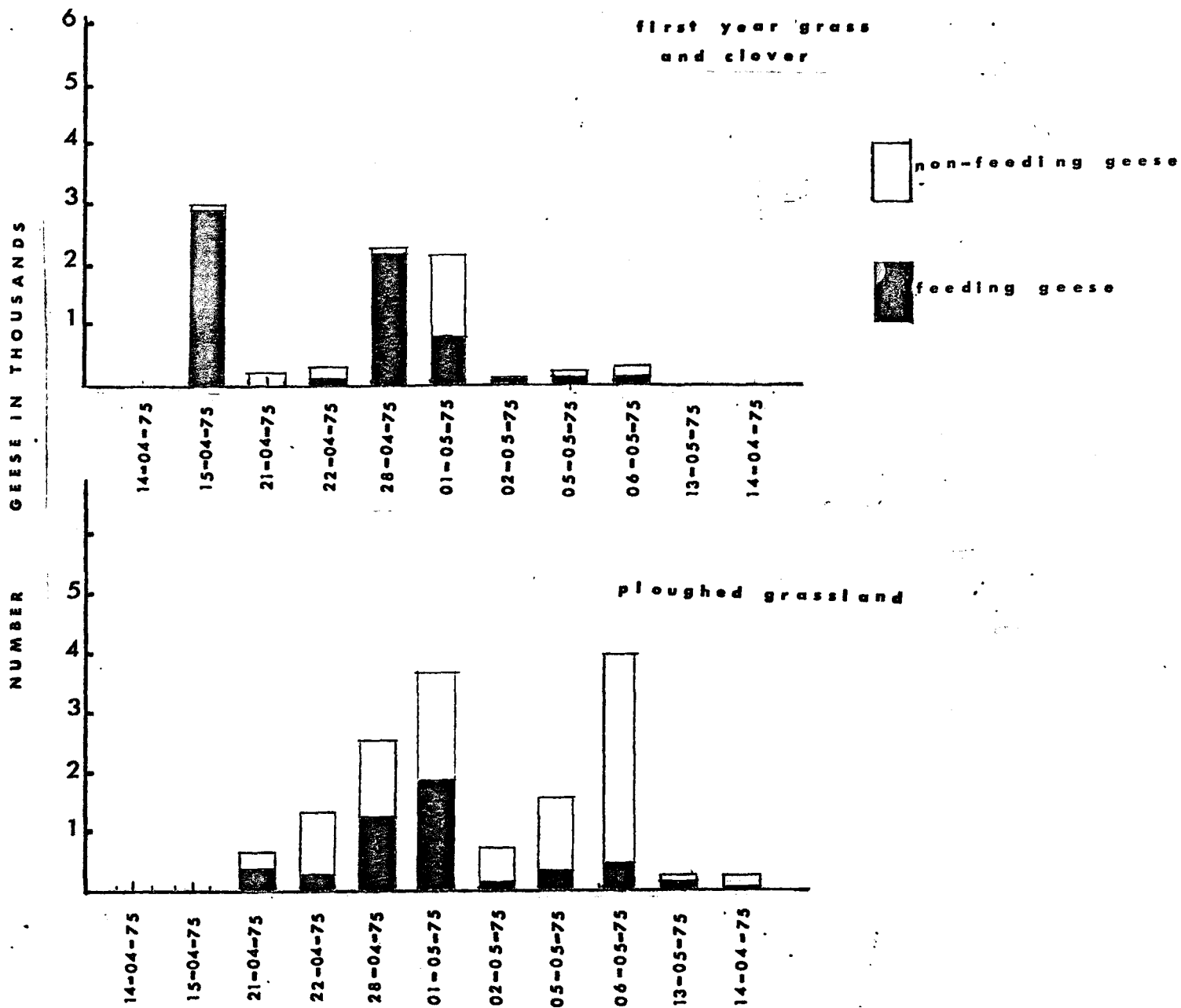
Utilization of fields by Canada geese
during spring 1975

9a

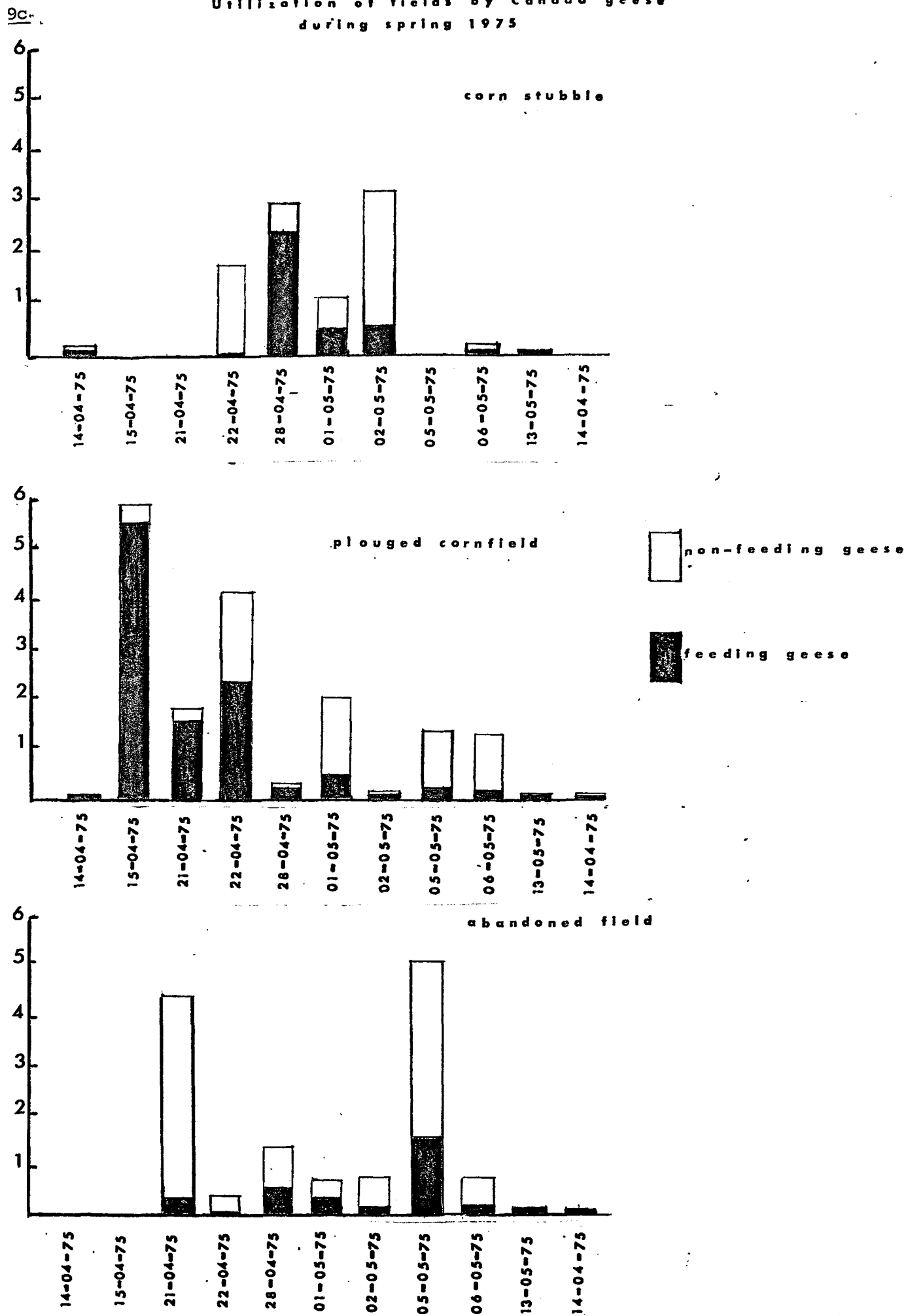
NUMBER OF GEES
THOUSANDS



Utilization of fields by Canada geese
during spring 1975



Utilization of fields by Canada geese
during spring 1975

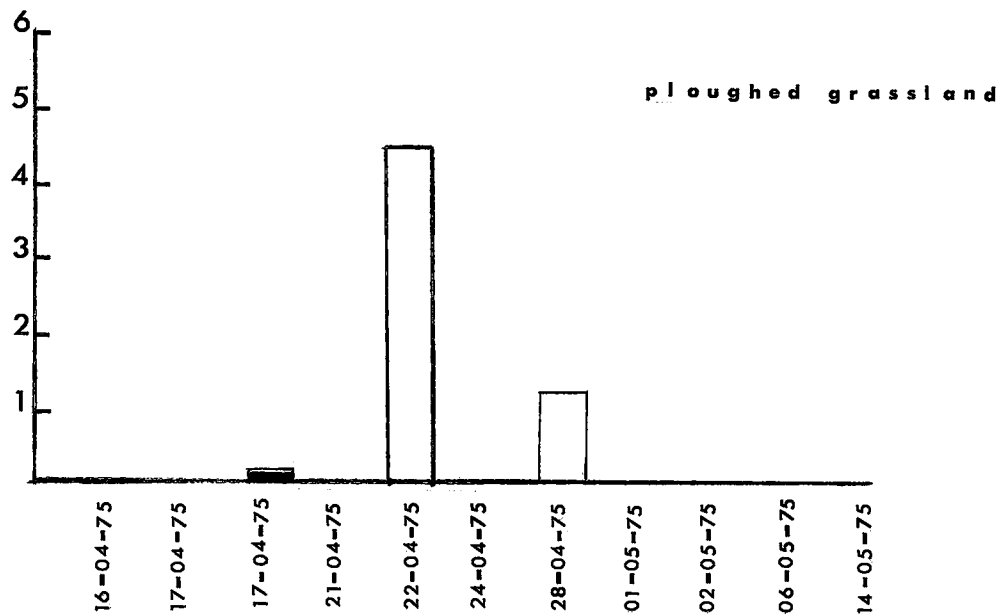
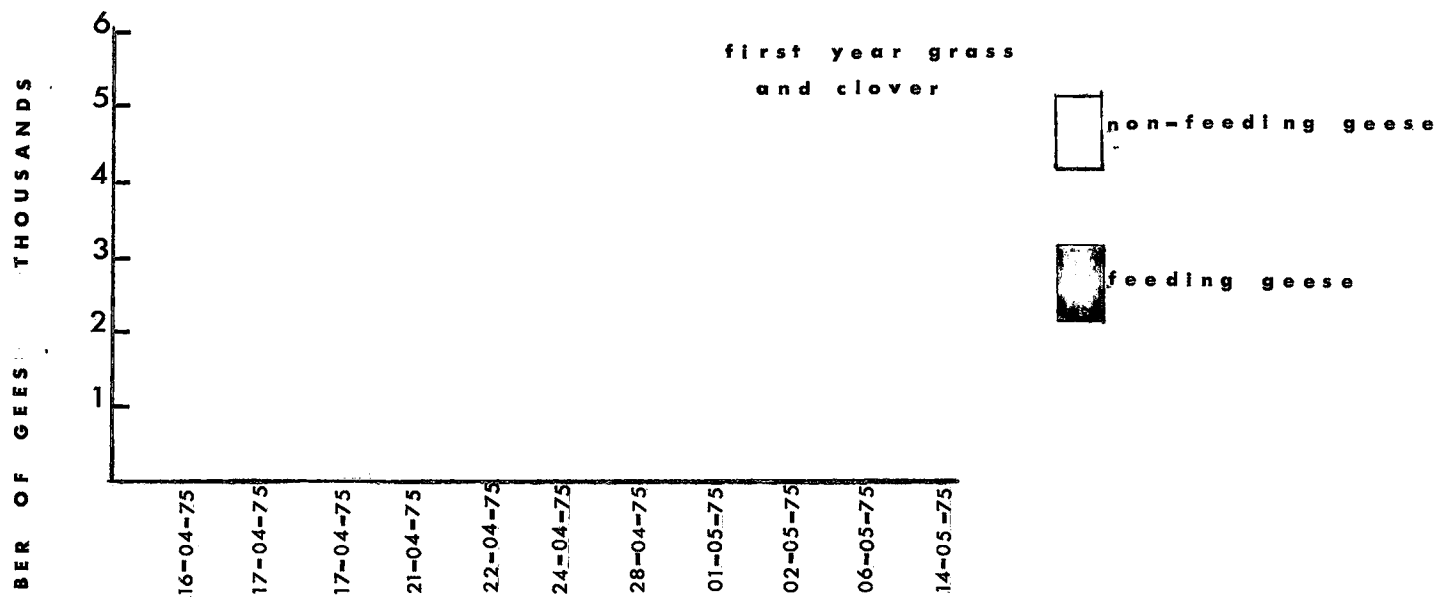
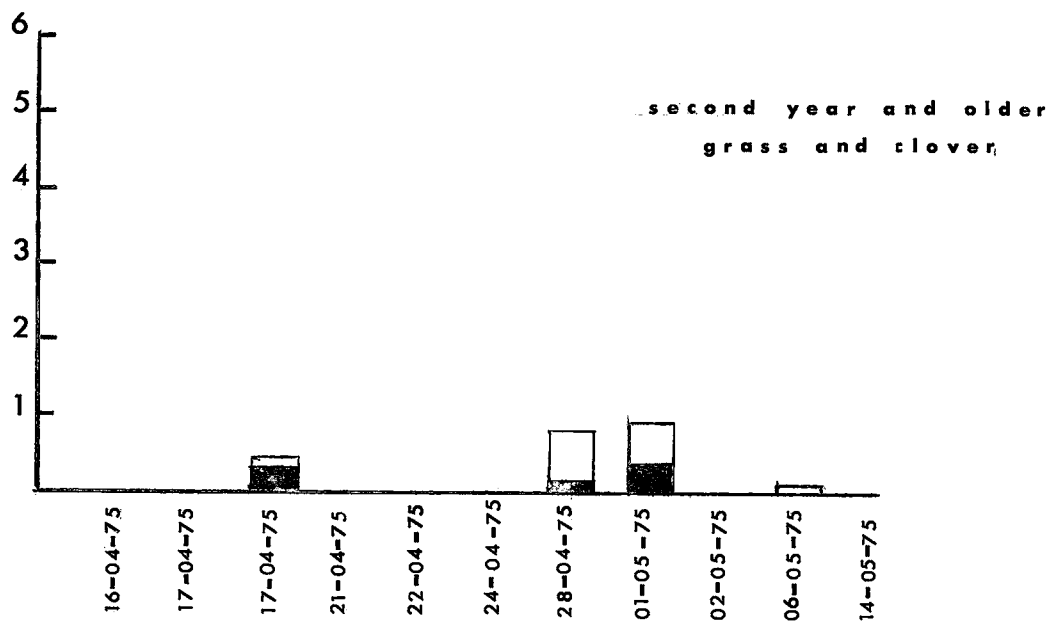


APPENDIX 10

Utilization of fields by Canada Geese in the
St-Louis - St-Robert area (10a, 10b)

Utilization of fields by Canada geese
during spring 1975

10 a.



Utilization of fields by Canada geese during spring 1975

10 b.

