SASKATCHEWAN SOIL TESTING LABORATORY
1985-86 REPORT
D. J. TOMASIEWICZ, DIRECTOR

Samples from over 3,000 farm fields were handled in the spring of 1985, a record for spring farm sample receipts.

Fall 1985 farm sample volume was again down (Table 1), due to the severe drought in the Southwest, the exceptionally late harvest elsewhere, and the generally poor outlook for agricultural commodity prices. Much of the sampling was done late in the fall; only 48% of the field samples had been received by October 24, compared to 86% the previous fall. More than half (57%) of farm samples were received from the Brown and Dark Brown Soil Zones. A large amount of spring soil testing in other areas is anticipated, weather permitting.

Despite the 10% drop in farm sample receipts, the total number of samples handled by the Laboratory since 01 July 1985 is up 6% over the previous year due to the large increase in submissions from other sources (Table 1).

Table 1: Numbers of Samples Received by the Saskatchewan Soil Testing Laboratory, by years; 01 July 1983 to 31 January 1986.

Source of Samples	1983-84 (July 1 to June 30) No. of Samples	(No. of fields)	1984-85 (July 1 to June 30) No. of Samples	(No. of fields)	1985-86 (July 1 to Jan 31) No. of Samples	(No. of fields)
Soil Samples						
Farm						
Complete (to 24")	55,791	(18,597)	40,923	(13,641)	30,417	(10,139)
N-Only (to 24")	918	(306)	2,667	(889)	1,329	(443)
0-6" Complete	1,399	(1,399)	1,501	(1,501)	927	(927)
Industry, Gov't	10,088		7,081		6,415	
Dept. of Soil Science	5,100		5,531		5,676	
University	2,918		1,726		2,673	
Gardens	234		301		159	
Plant Samples	4,207		1,600		1,763	
Water Samples	220		438		242	
Total Samples	80,875	(20,302)	61,768	(16,031)		
Total-Fall Only	69,246	(18,161)	46,807	(12,783)	49,601	(11,509)

The Farm soil fertility test packages offered, and their prices, were again unchanged for 1985-86. The Complete Test is $24 (N, P, K, S, pH, cond.; using 0-6", 6-12", and 12-24" samples, or a 0-6" sample only). The Nitrogen Only Test is $15 (N only; 0-6", 6-12", and 12-24" samples).

The Laboratory is currently purchasing a plasma spectrometer and an ion chromatograph, with assistance from an E.R.D.A.-funded soil fertility research project for which the instruments are required. They should permit improved turnaround and service for the non-farm sample analysis, and their utility in analysis of routine farm samples will be assessed.

Mr. D.M. Marantz was appointed Agronomist in February 1986.

Soil nitrate-N levels reflected moisture conditions during the 1985 growing season (Table 2). Crop growth was again severely restricted by drought in the Southwest, but the areal extent of the problem was less than in 1984. As a result, a very high proportion of the stubble fields submitted from the Brown Soil Zone contained high levels of residual nitrogen. Moisture conditions in the Dark Brown Zone varied from poor to good; the proportion of fields testing high in nitrate-N returned to normal from the high percentage observed in 1984. Favorable moisture conditions and heavy crop growth throughout most of the Black and Gray Soil Zones left a lower than normal percentage of stubble fields high in residual N in those areas. The increased fertilizer N requirements for the 1986 crop would not have been indicated by surface-only sampling in the fall of 1985, since 0-6" nitrate-N were slightly higher on the average than they were in 1984, despite the reduction in residual N levels in the rest of the crop root zone. Direct comparison of Fall 1984 and 1985 summary data with those from previous years may not be valid due to changes in the criteria used in preparation of the summaries.

Table 2: Percentage of fields submitted in two selected nitrate-N test ranges; Fall 1983, 1983, 1984, and 1985.

	More than 45 lb/Ac (0-24")				More than 60 lb/Ac (0-24")			
	1982	1983	1984	1985	1982	1983	1984	1985
	% of fields							
SUMMERFALLOW								
Brown	68	64	55	68	40	33	28	44
Dark Brown	79	79	72	79	52	51	45	53
Thin Black	85	81	85	78	66	67	63	60
Thick Black	84*	90*	90*	84*	61*	78*	74*	71*
Gray Black	75*	57	79*	78*	45*	43	58*	64*
Gray	59*	60*	65*	64*	31*	45*	39*	51*
STUBBLE								
Brown	17	15	32	44	10	8	18	27
Dark Brown	25	24	37	27	14	13	23	16
Thin Black	26	30	32	22	14	17	21	13
Thick Black	30	32	26	16	17	18	14	9
Gray Black	15	14	8	6	8	8	3	3
Gray	12	14	9	4	5	7	4	2

*based on fewer than 300 fields; other data based on 300 to 3000 fields.

NOTE: All data is from samples taken in the Fall of the indicated year only.