Other Observations

RUST (Melampsora lini). Thirty-eight fields were examined in s. Alta. Traces of rust were found in two fields. One field of Redwing flax was severely infected (J.S. Horricks). Rust was the only disease recorded in flax variety trials at 10 locations in central Alta. Six varieties were included in most tests but Redwing was the only variety affected, and then only at Olds, Airdrie and Forestburg. The infection was in trace amounts. At Lacombe a trace was found on Redwing in one set of trials. In another test both Redwing and Bison had slight amounts of rust (W.P. Campbell, W.P. Skoropad).

SEEDLING BLIGHT (Rhizoctonia solani) ratings were 6-tr. 2-sl. 1-mod. 3-sev./38 in s. Alta. (J.S.H.).

PASMO (Septoria linicola). Slight natural infection was present in plots at Ottawa, Ont., but the disease was not serious (R.V. Clark).

CHEMICAL INJURY was apparent in 2/38 s. Alta. fields. Damage was slight and was caused by 2,4-dichlorophenoxyacetic acid (J.S.H.).

RAPESEED

Rape Diseases in Saskatchewan in 1958

T.C. Vanterpool

The rape acreage for 1958 was 570,000 which is slightly higher than last year's and the highest to date. Despite the low rainfall for the whole province the yield was about average because 85% of the crop was grown in the northern half of the province where rainfall was higher and evaporation rates were lower. The rape crop was virtually free of infectious diseases, except in northern and northeastern areas where the 'white rust - downy mildew' complex was well distributed. Infections were generally slight, and in just under half the fields examined no disease was found.

White Rust - Downy Mildew Complex. (Albugo candida - Peronospora parasitica). The cause of the hypertrophied inflorescences on rape which have previously been reported as caused by Albugo candida or by Peronospora parasitica (C.P.D.S. Ann. Repts. 32:34; 34:43, 35:42; 36:37; 37:38) has been pretty well elucidated. On other cruciferous crops, A. candida and P. parasitica are each capable of causing enlargements on stems and flowers. A. candida produces larger swellings on the flowers than on the stems while with P. parasitica the opposite is true. Interestingly enough both parasites can produce a combined infection on crucifers, in which case the hypertrophies are said to be larger than with either parasite working alone. In Sask., the most common type of hypertrophy contains oospores of Albugo only. Occasionally the conidial or white-rust stage is also present towards the base of the enlargement. Sometimes the enlargements which contain Albugo oospores have conidiophores and conidia of Peronospora growing

on their surfaces. Repeated examination of the oospores from beneath the conidiophores of Peronospora have revealed only the rough brown oospores of A. candida with their characteristic warts and sinuous ridges. Hypertrophies caused by Peronospora alone have not yet been detected on rape. Work is being continued on this interesting complex. It should be emphasized that notes on A. candida and P. parasitica in previous numbers of the C.P.D.S. need careful re-interpretation.

This disease was the only one of any consequence on rape in 1958. Albugo was solely responsible. The disease caused some concern in the areas between Humboldt and Lake Lenore, around Melfort, Tisdale, and Nipawin in the northeast, and Meadow Lake in the northwest. At points in the northeast, the conidial white-rust stage was often conspicuous on leaves and hypertrophies, while at Meadow Lake in the northwest only a trace of conidial pustules was found. Elsewhere conditions were too dry for white rust development. In one field north of Humboldt the first seeding of rape was killed by frost and was re-sown. Over 15% of the second crop contracted the Albugo enlargements with moderate development of the white rust stage. The heavy infections were invariably on second crop rape. Other rape crops were mostly clean.

Stem Rot (Sclerotinia sclerotiorum) was not encountered. This disease is of no consequence in years of low rainfall.

Leaf, Stem and Pod Spot (Alternaria brassicae) did not appear until the crop was nearing maturity and was of no importance.

Ashen Gray Stem Spotting (caused by an undetermined fungus). In many fields in the Lake Lenore district slight to moderate amounts of a hitherto unobserved stem spotting were found. The spots were ashen gray, sometimes shiny, of all sizes up to three or more inches and encircled the stem. The spots were more numerous toward the base of the stem. Fruit bodies that resembled immature pycnidia were present in many spots. A slow-growing fungus that produced dark, septate mycelium was cultured from the lesions, but it has failed to fruit.

Aster Yellows (Callistephus virus I). Only trace amounts of this disease were found.

Frosts in May were especially damaging to early-sown fields in the northeast, some of which were re-sown. Fall frosts were of no consequence.

SAFFLOWER

LEAF SPOT (Alternaria carthami) was present in trace amounts in 5/15 fields examined in s. Alta. (J.S. Horricks).

RUST (Puccinia carthami) only affected 1/15 s. Alta. fields but the one infestation was severe (J.S.H.). Natural infection in plots at Ottawa, Ont. was slight (R.V. Clark).

ROOT ROT (Rhizoctonia solani) ratings in s. Alta. were 3-tr. 1-sl./15 (J.S.H.).