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Drainage at E. M. Turner's property — Flagstaff Gully

by I. B. Jennings

Mr Turner has noted accumulations of surface water and the development of boggy conditions in his orchard and tennis courts which he considers may be due to sub-surface leakage from the Flagstaff Gully dam.

The property is situated on the floor of Flagstaff Gully about 300 yards south of the dam. The area is very flat but has an almost imperceptible fall towards the south. At the time of my visit the pear orchard was in a boggy condition with pools of surface water and filled drains in evidence. The tennis courts were reasonably dry except for one or two small wet areas a few feet across.

Upstream of the tennis court several holes have been dug and water is standing in some of these at different levels, some are dry. A small test hole in the orchard revealed saturated clay at the surface becoming dryer at a depth to about 2 feet. The table drain along the road carries seepage from the dam at a rate of about 10 pints per minute but this does not increase markedly in volume over a distance of about 600 yards.

In the centre of the valley the bedrock would be Permian mudstone which is not exposed, covered by several feet of relatively impermeable clay. If water was being transmitted through joints and bedding planes in the rock and emerging on Mr Turner's property as springs or seepages it would be reasonable to expect the moisture content of the soil to rise with increasing depth. This does not occur and it is considered that the blanket of impermeable clay over the floor of the valley would probably prevent this in any case. Also, if the water was connected with underground seepages from the dam it would be expected that such seepages would be most evident in the flow in table drain but no evidence can be found to support this view. The different levels of water in adjoining pools indicate the impermeability of the soil and suggest that the water is simply surface accumulation due to ineffective surface drains.

Conclusions

1. There is no evidence to support the view that the boggy conditions are due to underground seepages from the dam.
2. The indications are that the water is due to local surface run off which has accumulated due to ineffective surface drains and the lack of local relief.

Recommendation

1. It is suggested that the orchard should be examined by an agricultural officer to determine if damage to the trees is actually occurring.
2. At this time of the year local surface accumulation of water and a high water table are to be expected. The area should be re-examined during the summer.
3. The surface drainage system, including the table drain should be put in effective condition.

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