FATHER, what's the value of a grassland sod?"

"The books put it this way, son. A sod is a complex conglomeration of the roots of pasture plants; decaying vegetable matter; fibrous residues of animal dung; mineral rich worm casts and is teeming with bacteria and other lower forms of animal life. It may vary in depth from very little to several inches and lies within and above the true soil surface.

The boys like dung but anything the humans call humus will do. The more work we do, the more we breed and then there are more of us to do even more work."

"What happens in poor conditions when you get waterlogged or when the soil surface runs together and is sealed so that you can't get any air?"

"Strict union rule; no working in water. We're out, mate, the lot. There's a lot of idle renegade bacteria that come

WORM'S-EYE VIEW by SMITH

"But if you want it in down-to-earth language, so to speak, listen to what that well-known radio commentator, Glaymond Rendinning had to say in an onthe-spot broadcast."

Here I am ladies and gentlemen, about to enter a 30-year-old permanent pasture sod to bring you an up-to-theminute picture of life down under; being reduced to the size of a tea leaf makes it easier to move about.

As I make my way down to an inch or so below the surface level, there is a forest of grass roots. The soil around them is fine and dark and I can see the tiny root hairs taking up the nourishing moisture from around the soil particles, rather like a kitten lapping a saucer of milk. Many roots have died and are in various stages of decomposition. These are being partly demolished by millions of very busy workers

"Excuse me sir, what is your name and your purpose in life?"

"We're called bacteria. We don't live long and we've a lot to do so we can't waste time."

"What exactly do you do?"

"We set about anything dead, knock it about, break it up: modifying they call it. Then we leave it for the upper classes to gorge on."

"I see, and what are your working conditions like?"

"Not too bad here, Guv. We like plenty of air, not too much flipping water, temperature round about 50 degrees, but most of all, lots of work. with the water but they're no good to anybody. Puts us back two months or so to get rid of them and clear up after the water has gone. Air? well—cut off the air and that's our lot. But the worms usually help us out by going up and letting in a bit of air."

"How are you affected by artificial fertilisers?"

"We like them. They make the old grass grow and this means more dung and urine from up top and bigger and better roots down here."

"Thank you very much Mr. Bacteria."

"That's all right, Guv; me successors will look forward to meeting you later on, if you know what I mean."

My eyes are now accustomed to the light and I can see animal life in many different forms; coming towards me is a very small white worm hardly bigger than a pin head. "Hello my little man. What's your name and what do you do around these parts?"

"My name's Enchy something. There are millions of we Enchys to the acre in a good sodded sward. We do a lot of the soil moving that is usually credited to the worms. We bring dung and decaying leaves and vegetation from the soil surface and dump it near the roots plants. When there has been too much help, we blot up the surplus moisture, then give it out to the soil particles at some later date. They pass it on to the plant roots. This humus material we have been working on helps prevent loss

of moisture from the soil in times of drought by preventing evaporation."

"What do you like best?"

"A good friable sweet smelling soil with plenty of air and lots of lovely grub. We're a bit dependent on these lazy bacteria devils, you know, because they make our food a bit more digestible for us. Mind you, they do have a lot to put up with at times, especially when these stupid humans pack the top of the soil and exclude the oxygen.

"There is one tribe of the bacteria race we have a very high regard for. this level from much lower down by Enchy and his co-cultivators. As this surplus moisture is taken away the air spaces are free again to bring in the life-giving oxygen.

It is fascinating how these little soil particles clothe themselves in water. On its way through the ground the water has taken up a bit of chemical here and a bit of mineral there so that it can feed the plant root hairs on a good balanced diet.

Down here they say about water that it can only do good while it is being

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They are the ones that produce the nitrogen from their large round bumps which break off the white clover roots. Boy, don't those little blighters work! And we all benefit from it down here. The nitrogen leads to increased growth which means more food for us either as dung or decayed leaves. But if the leaves are taken away and no dung returned to feed on, many of us die from starvation and the majority who live migrate to better feeding grounds."

"Enchy, it is most kind of you to have spared the time to talk to me, many thanks."

"Not at all, I would just like to have it put on record that our greatest fear is not of nature, but of the illogicality of man."

As I moved about down here I can see moisture coming into the air spaces so I guess it has been raining pretty hard up there. The mass of fibrous, spongelike material which surrounds me is greedily sucking it up. It is also quickly seized upon by the millions of new grains of soil which have been brought up to

kept in circulation. There is plenty of co-operation on all sides to keep it flowing. The soil grains when they have supplied the roots, draw on fresh supplies from other grains at a lower level and these in turn are freely fed by the spongy humus. The more humus material there is to hold the soil particles apart from each other, then the thicker is the covering of water on each particle.

Before I return to base there is one other group of people I must talk to.

"Mr. Earthworm, would you tell us about your job?"

"We do the work of chemist and engineer but we can also tackle air conditioning, debris collection, and general soil amelioration. We are best known as earth movers. We load up with raw soil from the lower layers and then move up to the surface where the load is dumped. The return journey is usually made with a leaf or some other part-rotted material.

"We use humus as food to keep us active, and where there is a good supply (Continued on page 15)



JUNE 19th Welsh Section A.G.M. and Competition, Royal Porthcawl Golf Club. **IULY** 18th South West Section, Annual Tournament, Weston-Super-Mare Golf **AUGUST** 13th, 14th and 15th B.G.G.A., A.G.M. and Annual Tournament, Pyle and Kenfig Golf Club. 30th Southern Section, Autumn Tournament, Sunningdale Golf Club. SEPTEMBER 25th East Midland Section, Autumn Tournament, Willesley Park Golf Club, Ashby-de-la-Zouch, Leicestershire. 26th Welsh Section, Cardiff Cup, Glamorganshire Golf Club. NOVEMBER Midland Section visit to Messrs, Massey Ferguson. 28th

WORM'S EYE VIEW-continued.

of this we work a seven-day week, 24 hours a day, and in a year, we and the Enchys combined can move up to 26 tons of soil to the acre."

"What a wonderful feat; how on earth (if you will excuse the expression) do you move all this soil?"

"We eat it, nip up to the surface, get the old discharge auger on the go and then nip back again for another helping. By moving around pretty freely we can make sure there is plenty of work for the labouring classes to do as well as maintain good working conditions for them."

"And how about your job as a chemist?"

"We have a secret process for modifying all the soil we eat so that many of the essential plant foods such as nitrogen, calcium, phosphorous, potassium and magnesium are made more readily available when dissolved in water."

"How many of you are there to the acre?"

"The last time we had a census in this particular sod there were 10 cwt. of us, but mind you this is a pretty useful built-up area; plenty of food and plenty of employment." "Do earthworms or other active soil workers move towards the newly made regions which are frequently ploughed by man?"

"Who would voluntarily go to a place where semi-starvation is a certainty and premature death a high probability? Any migration is in the reverse direction, much of the humus food on which we are so dependent has been destroyed and such lands are able to support only about $2\frac{1}{2}$ to 4 cwt. of our population."

"Suppose there were men who regretted the folly of their ways, what steps could they take to encourage your active co-operation?"

"Just make sure that we have a regular supply of humus food and air. That's all we ask and we'll repay them handsomely."

"May I thank you and all your colleagues for taking part in this programme? Listeners will now be returning to the studio, I hope I follow."

"There you have it, son. Just think about it next time you walk across the 10-acre."

With grateful acknowledgments to "The Farmers' Weekly".