



Your Living Environment

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PLANT BREEDING -- GOD'S WAY!

A recent news report on Cambridge Plant Breeding Station stated that a new, £250,000 building had just been opened! The reader couldn't help but gather that this huge expense was well justified by the fruits that will follow the automatic expansion that this building will allow.

The same report went on to state that prior to the opening of this building, the Station's operating expenses were some £400,000 per year! Quite a sum to spend annually, just to breed a supply of "disease-resistant" plants to replace the "disease-resistant" ones they bred only three or four years earlier! This is but ONE of many such costly institutions around the world! But regardless of how low a value anyone may place on their work, their recent worldwide impact is undeniable!!

Who hasn't heard of "the Green Revolution"? "REVOLUTION" is most appropriate, because it is already producing agronomic anarchy and confusion! Suddenly we are told that man, has made a colossal genetic break-through in a bid to hold-off famine.

But even before that label "green revolution" was coined, a previous Research News brought you a report entitled -- "Genetic Engineering - Complex Path to Failure". It aimed to invalidate the claims made by these influential and brilliant scientists. It showed that they are setting the character and the pace for pandemonium in the plant kingdom!

Having given you that report showing why the work of the geneticist is doomed to utter failure, it is now a real pleasure to be able to follow-up with news of a break-through in our own understanding. Within this last week it has suddenly become clear how God has employed the simplest device, ever since Creation, as a natural means of plant-breeding!

But first let us re-cap a little on man's own efforts. The most topical is of course the recent Blight attack that swept through the hybrid corn industry from one end of America to the other. Millions of bushels were wiped out almost over-night and panic ensued on the Chicago grain market.

Slowly the world is learning of the hushed-up Asian dissatisfaction over IR8 "Miracle-rice". At this moment of writing we have on Campus a Colombo-Plan expert who has come direct from twenty months of work in Pakistan. He has given a first-hand report on the failure of new high-yielding wheat varieties in that country. To this sad record of failure in modern plant-breeding must be added the continuous breakdown of new cereal varieties in every Western country!

What Is The Answer?

The old music hall joke in England would have you believe that "the answeerrrr lies in the soillll". However in this case, an answer that we have found appears to lie in a far more despised object -- the common and lowly dung-pat of an old cow!

We think you will find that this new understanding makes the multi-million pound efforts of "miracle" plant-breeding geneticists an expensive tragedy!

To millions of people the common animal dung-pat is collected and treasured as the only source of fuel. This one practice is sufficient to account for the poverty of their soil!

To many millions of modern Western farmers and their highly-trained scientific advisors, the same animal dung-pat has become a barrier to economic progress! And to some it has even become a distressing source of environmental pollution!!

Dung-pats -- An Economic Barrier?

Have you ever noticed the numerous grassy lumps and bumps in a pasture when you have been driving down the road, or walking across an unploughed field? Perhaps you have wondered why they are there and what causes them?

If you examine the ground you will find that every one of them is centred on a dung-pat, or a urine patch. Their cause is due to two factors. First, these areas persist in giving-off an odour that is offensive to cattle, so the animals assiduously avoid grazing the plants growing on these spots. Secondly, the unusually high concentration of organic matter stimulates these particular plants to put out more growth than the surrounding areas.

You may think that these lumpy patches look untidy. So does the stockman, but his main displeasure lies in the fact

that his animals persistently refuse to graze this rank growth!

Dairy farmers in Western countries are notorious for squeezing large numbers of cattle into tiny pastures. (It is said of some that their big boots are used to push the last cow into the pasture to get the gate shut!!)

Economics is always at the back of such practices but as usual there is an over-riding law of diminishing returns. As man increases the stocking rate, he also increases the number of dung-pats and urine-patches per acre. Finally, the total area of unpalatable and unacceptable grazing exceeds the rest!

That level of grazing is somewhat drily described in farmers' parlance as "heavy-stocking". Scientific advisors call in "intensive-grazing". Call it what you like, but it still confronts the financially-oppressed farmer as an economic barrier to further "progress".

Preventing Pasture Contamination

Farmers don't give up easily, so now under the guidance of their advisors many have completely removed their animals from the pastures! How's that for a system to get rid of the dung-pat problem, or "pasture-contamination" as it is called?

Then the farmer gets out his field-mower, cuts his pastures regularly and carts all the green plant-matter to animal feeding-troughs. This system is mistakenly hailed as an economic breakthrough by the men in Grassland Research! It is identified by the very "mod" term -- "Zero-Grazing-Management". That name is much more descriptive of the system than most of its practitioners have yet realised!

There is quite likely to be nothing that upsets a cattle-man more than to see half of his expensive, high-producing pasture trampled down, urinated on and excreted upon, even by his own cattle. So, cutting and carting grass under the "zero-grazing" system enables him to gather every blade of grass. And that can be just another point at which he goes wrong.

More To Dung-pats Than Meets The Eye!

Who would think that a little old dung-pat could present man with so many problems! This may be the first time that you have ever wondered why God designed animals to operate as they do. It is a question that has been pondered many times and we now have a very good answer!

Yes, God did create cattle with a waste-disposal system that leaves pastures strewn and fouled-up with dung-pats! But

it now also appears that this is also one way in which He anticipated Plant-Geneticists by almost 6,000 years!

Each blob of animal manure on the landscape represents the ultimate in concentrated plant residues. They are able to produce the maximum biological action, both in themselves and in the soil under the dung-pats.

At certain stages each year the animals start dropping pats that are impregnated with seeds from a variety of plant species. It is most important to note that these species are not necessarily representative of the pasture in which the animal is grazing. But it will represent the diet that has been instinctively selected by the individual animal! This is vitally important and quite miraculous!! The animals are not only re-seeding your pasture, they are actually choosing the species that they prefer for their own health on that particular soil! Furthermore, if the pasture is not over-grazed, they are even selecting certain individual plants within a single species! (Few people realise that a cow is a better judge of pasture and hay quality than any cattleman!)

God Produces "Super" Seeds

Wherever the climate allows pasture reproduction to take place through the setting of seeds, specie selection by grazing animals reaches its maximum effect. (That is providing man does not interfere in a wrong way.)

It is also easy to appreciate that plants growing in dung-pats will be the best nourished and most vigorous in the pasture. They will therefore set seed containing the highest amount of protein and the highest viability for future germination.

Consider what would happen if there was no odour to the dung-pats! These plants would always be the most attractive to the shrewd old cow throughout their entire growing life. They would be the first grazed and the most heavily grazed! That would reduce their seed-setting chances to almost nil. The weakest plants and the poorest species would then be left to dominate and pasture quality would quickly deteriorate.

God fore-stalled this problem and even reversed the process naturally, by the simple device of giving dung-pats an odour that repels the cattle. That means grazing animals spend the whole growing season eying the best pasture, but eating only the second best. (This appears to be a rather intriguing example of one instinct overcoming another instinct!)

"Super" Seeds For Entire Pasture

Plant growth virtually stops at the end of the season (the annuals die) and so grazing becomes scarce as the plants mature

and go to seed. At this time protein concentrates in the seed-heads and just then the offensive odour diminishes in the dung-pats. If the owner has been able to judge his management correctly, the non-contaminated areas will have been grazed heavily enough to ensure that the majority of seeds for next year's pasture will come from the "super" plants grown in the dung-pats!

"Super" Plants FROM "Super" Seeds!!

Only after the dung odour diminishes, will cattle suddenly begin grazing these lumpy areas of the pasture. Many "super" seeds will scatter out and re-seed the entire field. Others are eaten by the cattle and end-up back in dung-pats. Here they will germinate and grow into next year's "super" plants. So the cycle will go on repeating itself to produce seeds for pastures and seeds for further seed-production!

Special Seed PROTECTION!

In a hot climate where new seeds may have to lie for months in a dung-pat waiting for rain -- the intricately-designed process above could break down. But here again God has supplied built-in protection.

Manure from animals on green feed contains enough moisture to germinate most of the seeds impregnated in the dung-pats, when combined with the intense heat of the sun. But then the manure would quickly dry-out, thus killing the young plants. Well, it doesn't happen that way!

Stock on dry feed always drink extra water to compensate for the lack of moisture in their rations, but for some reason their dung will still be relatively dry. That enables the sun to quickly dry the animal manure before the seeds germinate!

In this way the seeds are protected from a quick death, and when the rains finally come at the end of summer, the dried pats are soaked with water and the "super" seeds germinate in safety.

God Can Do Anything Better...!!

Next time you drive by a pasture that has been grazed unevenly into rank-looking, dark green lumps and bumps, you can reflect very knowingly on what has been going on. You will now understand that you are in fact looking at a series of God-created, natural, minature Plant Breeding Stations!!

No expensive, sprawling, clumsy, man-made counterpart has ever bred plants equal in quality and disease-resistance to these that God turns out automatically! Truly, "God hath chosen the foolish things of the world to confound the wise..."(I Cor. 1:27) when He chose an odoriferous dung-pat to confound the world's geneticists!!