FOREST NOTES

Forests Department, W.A.

Volume 20 **Number 1**

PRODUCTION
PROTECTION
RECREATION
CONSERVATION

YEAR OF THE TREE

July 1982

FOREST NOTES

Volume 20 Number 1

July 1982

CONTENTS

EDITOR'S NOTE

It is appropriate, that as this issue of Forest Notes goes to print, the Conservator has announced the initiation of a Departmental communications audit to be carried out by the consulting firm of Eric White Associates (W.A.) Pty Ltd.

Forest Notes has been and can again be a valuable medium for internal communication between the staff and principally needs only support from its readers to ensure production at more regular intervals than has been the case in recent years.

Articles for Forest Notes are welcome at any time and preferably should be short and require a minimum amount of photographic illustration, but should include diagrams or graphs where appropriate. Articles for Forest Notes should be addressed to the Forests Department State Headquarters - Attention P.N. Hewett.

NEW STATE HEADQUARTERS

The Department has now (from 3 August 1981) moved into the new State Headquarters at 50 Hayman Road, Como.

For the first time we have all of the Perth based organisation under the one roof - so to speak - or rather under about 15 roofs but on the one site.

The move went more smoothly than the cynics expected, but there were, of course, a few teething problems.

Thanks are due to many people for the efficiency of the change-over, but particularly to Conrad Chambers and John Nicholls who orchestrated the whole operation.

A few of the facilities have not, at the time of writing, been completed, but we are becoming accustomed to a "glass house" existence.

Field staff who are in Perth are invited to visit us and inspect these premises.

RESULTS OF 1981 PROMOTIONAL EXAMINATIONS

The following officers are to be congratulated for successfully completing the 1981 promotional exams.

FORESTER

Rouse, T.
Smith, R.
Tiedemann, K.
Tame, W.

TECHNICAL OFFICER GRADE 2

Vellios, C.
Liddlelow, G.
Ward, C.
Phillips-Jones, K.
Blechynden, D.
Allen, K.
Griffiths, A.
Mason, M.
Dillon, M.
Chester, G.

TECHNICAL ASSISTANT GRADE 1

Portlock, C.
Sinibaldi, R.
Burrows, R.
Buehrig, R.
Giles, R.
Stritoff, J.

ASSISTANT FORESTER

Grime, P.
Broomhall, G.
Brown, D.
Carter, M.
Old, I.
Kennealley, T.
Asher, J.
Lathwell, D.
Moss, B.
Howesmith, J.
Hordacre, A.
McAlinden, P.
Sercombe, N.
Towie, W.
Haylock, K.
Ellis, G.
White, P.

Particular congratulations go to Rosalba Sinibaldi who, with a mark of 90%, was the top candidate!

AUSTRALIAN YEAR OF THE TREE

Following suggestions by the United Nations Association of Australia, the Western Australian Government has adopted the concept of an Australian Year of the Tree to be celebrated from 5 June, 1982 to 30 June, 1983. At the direction of the Hon. Minister for Lands, Forests and Conservation and Environment, Mr Ian Laurance, M.L.A., the State participation in the Year of the Tree (Y.O.T.T.) will be co-ordinated by the Forests Department and the Department of Conservation and Environment. A Co-ordinating Committee has been in action since April, 1982, with its primary task being to collate information about Year of the Tree events and to prepare and distribute material for groups or individuals who wish to take part in the Year of the Tree.

Year of the Tree - A Beginning? The 1982-83 Australian Year of the Tree could be a vital first stage in the Greening of Australia. Growing and caring for trees is a long term project and many of the proposed activities for the Year of the Tree can be the starting point for projects that will carry on to our Bicentenary Year in 1988. The concept also allows time for detailed planning of larger projects in rural districts.

It is hoped that the Co-ordinating Committee will produce a regular news letter advising the public of Year of the Tree activities and this will no doubt be circulated widely within the Forests Department.

It is important to appreciate that the Year of the Tree takes in parts of two winters, 1982 and 1983, and therefore two Arbor Days. The opportunities for making use of these Arbor Days are probably well known by readers of Forest Notes.

It is also important to appreciate that the value of the Year of the Tree will be wide if attention is given to activities other than just tree planting. Activities could be developed on a local basis in such areas as the identification of trees in school grounds and local areas by community groups and school children, encouraging a greater appreciation of existing trees in the neighbourhood, and the use of educational tours of routine forest activities to again emphasise the value of trees in the environment.

WE'VE STOPPED HORSEING AROUND

By Dave Bottrill

How often have you heard the expression 'I've been working like a horse', a hundred times I bet. Not many of us now will recall how a horse used to be worked or the problems associated with using working horses. I know from personal experience when I first left school and went to work down the mines in England that horses are not always the noble creatures from 'Black Beauty'. I recall very well the month that I spent handling pit ponies and remember wishing that the industrial revolution had taken over their work completely. I was trod on, leaned on, peed on and bitten to the extent that I kicked the pony before it kicked me. My experiences however are not the point of this article; recently an old file surfaced in Busselton which covers the period 1936-1956 and it seems that 1956 witnessed the demise of the horse as a regular part of Forests Department operations. Some of the letters make interesting, amusing and sometimes touching reading for me and I set some out here for your entertainment, hoping you may find them interesting too.

'A HORSE'S TALE'

Birth of a Worker 'Windsor'

Conservator of Forests
Perth.

15th September, 1937

Horses

I have to advise that on 14/9/37 at Ludlow the aged bay mare Queen H41 had a colt foal by the Government horse Maybe Lad, quartered at Sabina Vale. The foal has been named 'Windsor'.

Forester
Ludlow

Formal Christening

Forester
Ludlow.

9th December, 1937

Horse Brand F D

With reference to your letter of the 15th September last, I have to advise that the above brand has now been made, for the purpose of branding horses, which have no other apparent identification marks. The brand is being dispatched to yo u by todays train.

I should be glad if you will arrange to brand the foal 'Windsor' to which you referred in your letter. When you have finished with the brand, please return same to Head Office, and advise me of the position of the brand on the foal.

Conservator of Forests
Perth.

Conservator of Forests
Perth.

22nd December, 1937

Horse Brand F D

Referring to your letter of 9/12/47 it is not advisable to brand a foal till it is about 6 months old therefore I do not propose branding 'Windsor' till March 1938.

Do you require the brand in the meantime?

Forester
Ludlow.

Forester
Ludlow.

6th April, 1938

I shall be glad if you will inform me if any action has been taken concerning the branding of the horse 'Windsor' which, according to your letter of 22/12/37, you intended to brand in March last.

The horse brand F D should still be in your possession, and if it is now finished with, please return same to this office at your earliest.

When the horse is branded, please advise me of the position of the brand on the horse, and of any distinguishing marks the horse may possess.

Conservator of Forests
Perth.

Growing Up

Forester
Ludlow.

10th November, 1938

Colt for Castration

If the above colt has his testicles down it would be possible to do him next week. If you do not hear from me I will be along at 10.30 a.m. on Tuesday next November 15th.

Will you if possible keep colt off any feed until after the operation on day of my visit.

Department of Agriculture
Bunbury.

Out with the Old Guard

Conservator of Forests
Perth.

15th April, 1939

Horses

The old draught horse 'Ginger' at Ludlow is now unserviceable. His bad leg has apparently gone bung finally, he is now very old, and is getting in very low condition. I would be glad of your authority to destroy this animal.

Forester
Ludlow.

Forester
Ludlow.

2nd May, 1939

Re Horse 'Ginger' - Brands 345 (off neck)
and C N (near shoulder)

On 15th ultimo Forester Weston advised that the above horse was beyond further use to the Department and recommended that he be destroyed.

The approval of the Chief Inspector of Stock to the destruction of this horse has now been obtained, and I shall be glad if you will arrange to destroy same at an early date and forward the portions of the hide showing the brands to this office.

Conservator of Forests
Perth.

Conservator of Forests
Perth.

9th May, 1939

Re horse 'Ginger' - Brands 345 (off neck)
and C N (near shoulder)

I have to advise that the above horse was shot and burnt on the 8th May. By todays train I am forwarding brand 345 cut from the off side neck. The brand on the shoulder could not be seen for old working scars.

Forester
Ludlow.

Not Always the Horses Fault

Forester
Ludlow.

21st August, 1939

Horses

I note that Laymans horse was hired from October 6th to July 7th. When a horse is required for a long period such as this, you should bring the matter under my notice in advance so that consideration may be given to the question of a purchase instead of hiring.

It is also highly undesirable for an account to accumulate in this way. It should be paid at least monthly.

The horse 'Dick' mentioned in my letter of August 11th should be given a trial now that Layman's horse has been returned. If unsatisfactory we will consider the question of getting a different plough horse or a different plough-man.

Forester
Busselton.

Conservator of Forests
Perth.

16th January, 1941

Horses

I have only just now been able to try out the various horses at Ludlow, because since the transfer of Needs to Karridale we have difficulty in getting the Ludlow horses shod.

In your letter of 4/12/40 you refer to the horse Y8 having had sore shoulders. The marks are still quite obvious; but the collar which came with him was too small and ill fitting.

The collar which came with X90 was also much too small - actually prevented free breathing.

If the men looking after horses cannot do better than that, they must anticipate trouble with the horses. It should pay to send the "C" class man Morris round the districts where trouble with sore shoulders or "roaring" occurs, to fit the collars and repair them if necessary.

I will send a pair of horses to Kirup in a few days, but as I suppose that Mr Stoate will be along this week I am holding the transfer up to discuss with him.

Forester
Busselton.

Some Prefer Freedom

Conservator of Forests
Perth.

9th February, 1942

'Sandy' Brand 9CK

The above horse, which was transferred from Kirup to Ludlow 31/12/41 has escaped. He has been missing about 2 weeks, having presumably got out of a paddock. I understand that he has a habit of negotiating fences.

I have notified Kirup office so that outstations can be warned to watch out for him. I do not know how old or how valuable he was. If he is worth £10 or more I would recommend putting an advertisement in the West Australian or Western Mail, offering a reward.

Forester
Ludlow

Forester
Ludlow.

17th February, 1942

Re Horse 'Sandy'

In reply to your letter of the 9th instant, I have to advise you that the above-mentioned horse was a light draught, dark brown gelding, brand 9 K on the near shoulder. He was aged when purchased by this Department for £20 in May, 1928.

Under the circumstances it is not considered worth while inserting an advertisement in the papers for his recovery, but you should make some local enquiries. No money should be spent on searching for him.

Conservator of Forests
Perth.

Forester
Busselton.

1st April, 1942

Re Horse 'Nugget' Brand N99

I understand from the Divisional Forest Officer at Kirup, that although this horse was sent to Ludlow about six months ago for a spell with a view to getting it in working condition, it has failed to respond and is suffering from greasy heels (in a bad form) and is not considered of any further use for Department work.

I have been in touch with the Zoo authorities, and they are not interested from a "lion feed" point of view. Under the circumstances, it would seem advisable to destroy the animal, and you should therefore make the necessary arrangements to shoot it. A piece of the hide showing the brand, should be forwarded to this office.

Conservator of Forests
Perth.

'Windsor' the Worker

Conservator of Forests
Perth.

10th September, 1942

Draught Horses

Forester Dawson has no doubt reported the death of horse Baldy (Y24). That horse was referred to in my letter of 31/7/42. He appeared to be well enough to work, but was taken ill and died suddenly. The position re draught horses now is as follows.

At Ludlow we have Nigger and 'Windsor' (both good horses) and Old Baldy who is worn out. At Keenan we have Billie. I propose sending Nigger to Keenan to pair with Billie, both being slow horses. We require a medium heavy horse at Ludlow to pair with 'Windsor'. Will you please have one sent down. 'Windsor' is a fast worker, so requires a fast worker with him. There are no spare draught horses in Kirup, Collie or Harvey Divisions.

I will get identity particulars of Old Baldy when I return to Busselton and recommend his destruction if I cannot get an offer for him.

Forester
Harvey.

A Little Sand in his Craw

Forester
Ludlow

28th September, 1943

On the 22nd instand the Government Veterinary Surgeon visited Myalup Pine Plantation area to examine a horse reported sick. Another horse had previously died on the 21st September, and the horse attended subsequently died on the 23rd idem. In the course of his report he states as follows:-

> "These two horses were similarly affected, and at this time of the year horses eating green grass on sandy paddocks often become affected. For this reason, if possible, they should be kept off such paddocks at this time of the year and given rock salt in manger, and chaff and bran."

As Departmental horses in your district probably graze on sandy paddocks this information is submitted for any action you consider necessary.

Conservator of Forests
Perth.

No Match for 'Windsor'

Forester
Busselton.

5th July, 1948

Horse 'Bonny' LlV

This horse has been given a trial at headquarters since Needs left.

The horse stumbles and won't readily answer to the rein when harnessed to a cart. When Needs used the horse he was afraid to drive it out of Coolilup plantation, preferring to walk to the station from the plantation gate.

I would recommend the horse be sold and a heavier horse, nearer to 'Windsors' type be obtained. In any case we require a heavier horse now that Tommy is dead.

Forester
Ludlow.

Forester
Dwellingup.

14th September, 1948

We require a good medium heavy draught horse for a twin disc plough. It must be fast and definitely not a "plodder". The reason for requiring a fast horse is to pair the horse on hand.

Should you have a horse answering the above description and is available for transfer will you please send it to Ludlow plus winkers, collar and hames. Please let me know if no horse is available.

Forester
Ludlow.

Forester
Ludlow.

23rd September, 1948

I have arranged for a horse to be railed from Waroona to Ludlow on Friday October 1st. Collar, hames and winkers will also be transferred. I believe the horse to be a good and fast worker. He hasn't been worked for some time and when re-started is apt to be tender skinned, requiring application of an ointment until he hardens up. I trust you will find the animal satisfactory.

A.D.F.O.
Dwellingup.

How Did it Happen?

O.I.C.
Ludlow

9th February, 1949

Horses

As instructed by Head Office I have railed to you today from Karragullen one brown mare and foal and one chestnut gelding. Their collars are also being railed to you.

Assistant Forester
Karragullen.

Sounds Like Someone I Know!

Forester
Ludlow.

19th October, 1949

Transfer of Heavy Horse 'Blazer'

Re the one big draught horse which I am railing to you tomorrow, just a few points as to his character. Well he is a extra good horse to work as long as you are not in a hurry, but Mr Stewart requested me to give you a lay out on his feet, he requires shoes at all times owing to having dropped soles from being founder at one time or other, and the shoes need to be kept clear of the soles by hammering the edge down to a taper and paring the sole down each time he is shod. However I think he will do a good job on your soft country. By the way I'm getting him shod today so will be OK for five or six weeks.

Forester
Nyamup.

Roll Call - What Value a Tired Worker?

Conservator of Forests
Perth.

16th June, 1950

Horses

At Ludlow we have too many horses, as follows:

'Windsor' to keep.
Blazer - used snigging pine. To keep.
Baldy, heavy draught - feet in poor order. Requires shoeing carefully. Only in moderate condition. Could be transferred.
Old gelding, heavy draught - very poor condition. Would not be possible to sell. If we can't find some other method of disposing of it, we would like permission to shoot it.
Colt, rising 2 years - will make spring cart horse. Requires castrating. It does not seem possible to get a vet to do this job. Forester Dawson has not been able to arrange this, though he has tried.

Recommendations: That we ask a farmer, Mr Mac Forrest to castrate the colt. He has done many others. He will not be able to charge for this service. If permissable we could offer him the old gelding (if he will take it) and this would save shooting it.

C.T.I.
Busselton.

Epitaph for a Worker - Well Done Thou Good and Faithful Servant.

Conservator of Forests
Perth.

30th August, 1951

Acting upon the advise of the Government Veterinary Officer I have had the horse 'Windsor' destroyed.

This horse has been unfit for work for several months.

Forester
Ludlow.

Forester in Charge
Ludlow.

10th September, 1951

Horses

I am in receipt of your letter dated the 30th ultimo advising that the horse 'Windsor' has been destroyed. The brand recorded at this office is F D.

Will you please note for future reference that an arrangement has been made with the State Gardens Board for any of our old horses which have outlived their usefulness to be railed to the Zoological Gardens Horse Depot at East Cannington with advice to either the Officer in Charge at the Depot or the State Gardens Board, Treasury Buildings, Perth. The Board will pay rail freight at this end.

Full particulars should also, of course, be forwarded to Head Office as usual.

Conservator of Forests
Perth.

End of an Era

Officer in Charge
Ludlow.

5 August, 1955

Please advise me how many horses are used on productive work at Ludlow. What work do they do?

Conservator of Forests
Perth.

Conservator of Forests
Perth.

11th August, 1955

Horses

Referring to your letter of the 5th. instant we have two horses at Ludlow.

They are used for occasional ploughing of part cleared firebreaks, maintenance of fences and telephone lines.

The use of motor vehicles, tractors, etc. have relegated horses to only occasional work.

As horse drivers are rare nowadays and shoeing difficult to have done, I recommend they be sold by advertisement in the local newspapers or transferred to other centres.

Forester
Ludlow.

Conservator of Forests
Perth.

20th March, 1956

Horses

With reference to your letter of the 5th September 1955, referring to the sale of horses. I have endeavoured to interest local and district farmers in the purchase. Very few people were interested as most ploughing and cultivating is done by tractor.

A tender was received from a Mr G.E. West of Metricup for both horses with winkers, collars and hames for the sum of £15, the lot. The tender was referred to Mr Stewart who approved of the sale if no higher price could be obtained. The tender was referred back to Mr West who re-tendered the sum of £20. The sale was then completed, Receipt No. 48049 was issued.

For your information the winkers and collars were old and worn and should now be removed from listed equipment.

Forester
Ludlow.

The passing of the horse from Forests Department operations was not lamented by many I'm sure, at this distance though the rewards meted out to the horse, good or bad, do not seem just. We should read history in connection with slavery and remember man was treated in similar fashion then. Perhaps a union for horses would be an idea if they are once again, due to lack of fossil fuels, brought back into the forest as workers.

It bears thinking about also how technology might affect our own future; have you been to the Zoo lately?

BUNBURY TECHNICAL COLLEGE : BEST FULL TIME STUDENT 1979

by Brett Humble

PRIZE: A trip by Greyhound Coach to anywhere in mainland Australia.
$150.00 donated by the Perth Building Society.
Accommodation provided by the South Bunbury Rotary Club.

PLACE OF VISIT: Gympie, Queensland.

AREA OF STUDY: Certificate in Forestry Fieldwork.

My journey started on a Sunday evening in Perth and in four days I was to visit three other cities and catch a quick glimpse of the vastness of Australia, east to west from the comfort of an airconditioned Greyhound Coach.

My trip was to finally take me to Gympie, a small city some 200 km north of Brisbane, located on the Bruce Highway and directly adjacent to Queensland's Sunshine Coast.

The coach trip was one I will never forget. Altogether I was to spend 75 hours of almost non-stop travel to get to my destination. Yes, even sleeping and going to the toilet on the coach! From the open desolation of the Nullarbor Plain to the lushness of the Barossa Valley, I was to glimpse a part of Australia that I took for granted was there, and had only seen before on television. It made me feel more Australian having seen it.

At Gympie I was accommodated by the President of the Rotary Club of the town, who loaned me one of his vehicles, which was to assist me greatly in seeing this part of Queensland in the time I had.

My main purpose was a study tour of the Queensland Forest Department in the area. I was greatly assisted by the Rotary Club who had pre-arranged with the Forest Department three tours I was to have. These were all in and around the Gympie area and I benefited greatly from them. Each day I was taken by Departmental officers and shown all types of Departmental activities from softwood and hardwood logging to fire control. I could compare their systems to our own in Western Australia and all of my questions were answered fully or I was shown the actual operation.

After the study tours and in my own time, I explored the famed Sunshine Coast from Noosa Heads in the north to Caloundra in the south.

This was all and even more than I had expected. From the rolling surf all along the coastline to the jungle type National Park at Noosa, from the surfers with zinc creamed noses to the bikini clad and, in many cases, the un-bikini clad Sunshine Coast beach girls.

All in all a trip I shall never forget and one that would need a never ending roll of movie film to record. It has benefited me not only in my work but in my knowledge and sense of being an Australian.

A MORAL TALE

by John McCormick

PHASE 1 - THE IDYLL

Mauritan spun slowly on its axis, a million million miles from its nearest neighbour in the galaxy. Compared to other giants in space, it was as a speck of dust; yet it possessed a property that none other had in that its seas and land masses teemed with life. The land for the most part was covered by a green mantle made up of myriad plant species, ranging in size from the microscopic to large trees which covered the mountain slopes, sometimes reaching down to the shoreline.

First appearances indicated that all the plants and animals lived in harmony with each other and with nature, but such was not the case for they were largely parasitic, one on the other. The struggle for survival was continuous and fierce and sometimes whole species would disappear, only to by replaced by others. Still, there was some natural order about things for life on the planet seemed eternal and without end. That is until a strange mutation occurred which threw everything into chaos.

At first, the newly formed creature bore a close resemblance to other primates, save that it had less body hair; but the characteristic which was to bring about the destruction of practically all life on the planet lay in the formation of its front paws, for the first two fingers of each could be made quite simply to form a circle.

PHASE 2 - HARDSHIP

Since time in space is a paradox, being at once nothing and everything, it is easy for us to move forward a pace to the island of Engeland.

In the early days, life had been quite tolerable for the island dwellers; food was plentiful and sufficient arable land was acquired by clearing small areas of forest. But this near idyllic state did not exist for long. The population growth was such that, with the lapse of a few centuries, the people could be numbered in millions whereas before only in thousands. The production of food could not keep up with the demand even though by this time most of the forest land had gone over to agriculture. Hunger was felt throughout the land and vagaries in climate would sometimes result in famine and widespread suffering.

It was during this dark period of Engeland's history that reforms were called for. At first, the rich had been generous and gave millions of thallers to the poor, but the more they gave to the poor, the more poor people there were to give money to. Some attempted land reforms in which areas of land were doled out to farm labourers but inevitably the land returned to one-ownerhsip. The State was called on to bear the burden of the poor; however, the problem was not the inequitable distribution of food, but the lack of food itself.

This era in Engeland's history is symbolised by one, Sadim, who driven to distraction by the suffering around him, killed himself by devouring gold coins - for, although there was insufficient food, there was an abundance of coinage.

PHASE 3 - MIGRATION

The fishing fleet drifted in a long, low swell; it was the sort of climate most conducive to thought in mariners and one such, Captain Suthlam, philosophised on the benefits to be gained by being safely at sea, cut off from the eternal miseries of life ashore. Whilst thinking of the latter, it occurred to him that Engeland might not be the sole island on the planet. Some years previously he had seen a species of large sea bird which he felt certain had not nested in Engeland. Surprisingly, he had not followed up the matter at the time.

When next ashore, he wrote to the Government offering his services for a voyage he had in mind, one of exploration. The governors of the land were in no position to refuse Suthlam's request and although in past history ships had sailed beyond the horizon, never to return, he was allowed to supervise the construction of the largest wooden ship ever built by Mauritan man. He officered his ship with adventure-seeking young men from wealthy families. For seamen he chose a hundred scallyways whose only qualification seemed to lie in the fact that they had all spent at least one term in prison, reasoning thus: living between decks for a prolonged period would be like being in prison but with the added risk of drowning.

The 'Quest' was two years out of Engeland and given up for lost when one day she returned with the glad tidings that there were indeed new lands to be conquered. Captain Suthlam in due course led an armada of ships carrying migrants out of Engeland. Many great convoys made the voyage in the years that followed. The ships returned each time laden with food.

Eventually Suthlam retired from the sea and lived in a country mansion presented to him by a grateful government. He lived to a great age but never once gave up his interest in the Newlands which he had discovered. What concerned him most was the fact that in spite of a continued flow of migrants out of Engeland and the importation of increasing amounts of food, the problem of hunger remained and, in fact, grew noticeably worse. In the Newlands everything progressed, food and land aplenty for all. The settlers thrived.

Studying the population figures, Suthlam found that allowing for immigration, the population of the Newlands doubled every twenty-five years; in fact, in some specific areas, a doubling rate of fifteen years was being sustained. Yet the population of Engeland took almost fifty years to double itself.

The answer was simple for malnutrition, poor living and working conditions experienced by millions in Engeland led to a high mortality rate, particularly among the very young, whereas the Newlanders were well fed and worked for the most part in healthy open air conditions. What upset old Captain Suthlam most was the realisation that the

Newlanders would one day end up in the same boat as the Engelanders, for population must in time reach saturation point. Already in a few of the newly built cities a doubling rate of thirty years was being experienced.

There was nothing for it! The Creator must have planned it that way. After all, there's nothing drives a man to action more than fear of hunger, or fear of tumbling down the social ladder.

PHASE 4 - THE GADERENE SWINE

We leap forward a few centuries. Old Suthlam's worst fears have been realised. In all of the Newlands, population pressure on land resources had become as great as that in Engeland. This, at a later period in the history of Mauritan man led to intercontinental wars. The wars originally began as pirate raids, but in time these escalated into large scale conflicts in which nuclear devices were used. The devastation brought about by the latter was so appalling that agreement was reached universally to ban such weapons.

Yet still the problem of sustenance had not been solved and it is here that the great downhill race began, for the ingenuity that Mauritan man showed in wartime was converted into a new technology with which to make a final assault on the land.

Heedless of increasing soil erosion brought about by land clearing, large areas of marginal land were denuded of trees and scrub, whilst such forests as remained on the planet were given over to grazing by goats and pigs. The natural regrowth of trees was halted. To counteract the problems brought about by vast monocultures created in order to produce food, great tracts of land were continually sprayed with insecticides, fungicides and weedicides. This resulted in pollution of rivers, lakes and even coastal waters. Marine and estuarine life became all but extinct. Meanwhile, desertification proceeded at an alarming rate and even moderate rains could bring about erosion on a devastating scale. Lakes and river mouths were silted up. Rivers burst their banks, flooding once fertile land, converting it into marsh during the wet seasons and harsh desert in the dry.

Not all men stood by while this was happening; indeed, some steps were taken to halt erosion but these were of a limited nature and the conservationists eventually pushed to one side as being uneconomic. Thus, the descent of Mauritan man into the abyss was swift for he himself provided the impetus, like a sinking ship driven to the bottom of the ocean by its own propulsion.

PHASE 5 - "THE THIRD DAY COMES A FROST, A KILLING FROST"

As Nus sank down towards the rim of the ocean, the old man dragged himself along through the remains of a nanafied forest. The going was easier now and downhill. Looking beyong the great swamp spread out beneath him, he saw the city at the edge of the land, its tall buildings made pink by the last rays of Nus. The city appeared to be made of glass, but the old man knew that the transformation had been

brought about by a nuclear explosion. There was no entering such places. In his youth, some had tried. One alone had returned only to die, writhing in agony at his feet.

That had been a long time ago, but now he was tired and the air was becoming chill. He gathered around him a few meagre scrub bushes and lay down to rest. The ancients had told him once of how millions of people had lived in the great cities and of the pleasures to be had therein, and of how the inhabitants had cut themselves off from nature and her poets. The greatest of these, Justin Niward, when he stated that man was first cousin to the animals of the forest and second cousin to the wildflowers, had been lampooned by society. The latter had chosen instead the path that led to vanity fair.

It was very cold now. The old man drew his knees up to his chest in an attempt to conserve some warmth. His gaze was attracted to a solitary white flower, a wood anemone. He reached out and plucked it from the ground so as to examine it in the fading light. In doing so he noticed that his forefinger and thumb formed a circle as he held its thin stem. Instantly he understood - for here was alpha and omega - the beginning and the end.

TYRE TREE GUARDS FOR FARM TREES

by N. Caporn

Extensive plantings of over 100 species have been established in Helms Arboretum 15 km north of Esperance. This is a notorious area for rabbits and considered by the A.P.B. to be the worst in the State. All recent plantings have been surrounded by rabbit proof fencing. Since 1973 various attempts were made to establish unprotected avenue plantings adjacent to the main entrance road without success. The road runs between pasture and mature Pinus pinaster and was subject to daily migrations of rabbits, kangaroos and occasionally wallabies, looking for a feed.

The rabbit population was controlled to some extent by trails of 1080 in oats but this was insufficient to avoid total losses.

Protection by conventional means was extremely expensive, estimated at about $5.00 a tree in an avenue configuration, so the idea of using old tyres was borrowed from Tasmanian agroforesters.

A total of 1 km of double row avenue was planted in June, 1980, using Eucalyptus gomphocephala (tuart) and Euc. cornuta (yate) in one row on which the trial was carried out and in the adjacent row Euc. rudis, Euc. spathulata and Euc. melliodora.

Agras No 1 was applied at the rate of 100gms/tree in late July.

Treatments: (1) No tyre (2) 1 tyre and (3) 2 tyres.

The trial was evaluated in June 1981.

Treatment:	(1)	Nil	Survival	35%	$\bar{X}$ Height	0.51 m
	(2)	1 tyre	"	64%	"	0.78 m
	(3)	2 tyres	"	89%	"	0.73 m

The survival proportions show clear differences (D. Ward):

(1) 21-49%

(2) 49-77%

(3) 80-98%

Discussion:

The number of tyres had a most significant effect on survival, results clearly show that one tyre is insufficient - perhaps the bunnies can climb over it or the tree is more obvious to browsing kangaroos.

It appears that once the one tyre trees escape early predation and are established there is no difference in growth rate. The tyres may also help by giving protection from drying winds.

The untreated row of Eucalyptus rudis, spathulata and melliodora was completely wiped out and this may indicate that some species are more attractive to predators.

The only costs involved were the carting to site, and labour to place the tyres in position. The tyres are normally burnt and were, in the main, steel radials which cannot be recycled and, in fact, disposal presents a problem to the tyre industry, especially in the city where their burning is prohibited.

A BARK DISEASE OBSERVED ON EUCALYPTUS SALIGNA

by John McCormick

Until fairly recently, Eucalyptus saligna had been a tree without blemish. However, a bark disease has taken hold in Sydney blue gum plantations throughout the Dwellingup division and elsewhere.

The first symptom of the disease is the appearance of orange coloured patches on the bark of the tree boles (see photo 1). The cracking continues through into the cambium, thence a small amount gum effusion takes place (see top left and bottom right hand side of photo 2). Beneath these areas the wood has been depressed. The symptoms tend to indicate an attack by one (or more) bark inhabiting fungi of the group Ascomycetes. A second or secondary attack can be seen as small round pits, three millimetres in diameter, greyish white in colourm strung out along the cracks in the inner bark. Beneath these pits there is a brown rot which has not as yet (April 1981) reached the cambium.

A tree that has borne the infection for at least two years can be seen in photo 3. Areas of orange bark are present with gum patches from the previous year's infection.

As is in character with smooth barked eucalypts, Euc. saligna sheds its outer bark annually. The trees in photo 4 have done so revealing the form of bole distortion that takes place as a result of the orange bark disease. Affected trees are made prone to attack by other invaders. In this case, termites and polyporous fungi are in evidence where basal cankering has taken place. More important is the invasion of 'orange bark' areas by an unknown borer (see photo 5). Should these borer attacks persist, a considerable amount of timber degrade will occur in infected trees. Meanwhile, the trees appear to retain their normal vigour and have healthy foliage.

O.B.D. was first observed on 20 February, 1980 in the Scarp Road plantings and later that month in the Maradong Road plantings - other sightings, Karnet and Willowdale.

First borer invasion: borer active December, 1980.

The spread of the disease since February, 1980 when less than 10% of the Scarp Road trees showed any symptoms of the disease is remarkable for at present virtually all trees in the Scarp Road area are infected.

Photo 1. Cracked orange patches on E. saligna

Photo 2. Orange bark disease - advanced stage - Scarp Road.

Photo 3. Badly infected Sydney blue gum - Scarp Road.

Photo 4. Bole distortion brought about by disease.
Note borer attack near base of central tree.

Photo 5. Borer attack in orange patch Euc. saligna - Maradong Road

Photographs by Les Harman

CREATING A FLOURISHING, SHADY GARDEN WITHOUT BIG WATER BILLS

Extract from "News of the North" Gardening Section - "The West Australian", 29 April, 1982.

When Forests Department extension officer Wally Edgecombe came to live in Karratha 18 months ago he was used to the sight of tall, green trees such as those found in the south-west corner of the State.

To make matters worse he moved into a new house with a bare yard in which the earth, like that on any construction site, had been packed down hard by men and machines while the house was being built.

Yet there is now a flourishing garden with shady trees more than two metres high, usable areas of lawn front and back, flowering shrubs and creepers - and no big water bills.

As a forestry officer, one of Mr Edgecombe's tasks in the Pilbara is to evaluate various dry-climate trees and plants for use in Pilbara gardens. The propagation and testing is mostly done at the government nursery in the light industrial area. But Mr Edgecombe also takes his work home.

Most of his garden was planned when he arrived. His task was the establishment and monitoring of what is one of five "low-water-gardens" sponsored by the State Government in Karratha to develop ways of reducing demand on the West Pilbara water scheme.

Mr Edgecombe has not one but three water meters - one on the main, one at the front garden tap and one on the tap in the back garden. By comparing the readings he has found that he can maintain a flourishing garden using only 550 kilolitres a year, just over one-third of the average Pilbara household consumption.

He also knows that showers, toilets, washing machine and other domestic use only accounts for one-third of the total. What is even better is that with the stepped pricing system for water, he can stay out of the more expensive bracket. His last water bill was only $20. "If you stay in the shower for two minutes or five minutes it doesn't make much difference", he said. "Two-thirds of the water, at least in this house, goes on the garden but people in company houses use up to 85 per cent. With the company home-ownership plan, people are going to start noticing this when they have to start paying for their water".

Trees which have shown promise either in his garden or in department trials include Eucalpyptus torquata, Eucalyptus coolibah, Eucalyptus striaticalyx, Eucalyptus leucophloia (snappy gum), the weeping variety of Acacia coriacea (a local wattle), Acacia aneura and Thespesia populnea.

Suitable large shrubs include Acacia aneura, Acacia tumida, Acacia holorsericea, Acacia trachycarpa and Claradendron tomentosa, Eremophylla longifolia and Pittosporum phyllyraeoides.

Smaller shrubs include Acacia translucens (poverty bush), and Eremophila maculata, while ground covers like Ipomoea costata, Ipomoea braziliensis (beach morning glory) and Canavalia rosea prosper with a minimum of water.

Mr Edgecombe said that most of the species were found locally and were well adapted to the climate. They could be grown into much more attractive plants with proper soil preparation and care.

"A native garden is not a low-maintenance garden", he said. "It helps to prune native trees and shrubs to get the best foliage growth and you have to keep things like buffel grass out. Low water doesn't mean low maintenance except that once the trees are established the buffel grass is easily controlled with weedicide and the couch grass from your neighbour's lawn finds it better to stay at home".

LAKE ARGYLE FRINGING FORESTS

by C.C. Done

BACKGROUND

With the filling of Lake Argyle in 1972/73, some 700 square kilometres of land was covered by water. Much of the land was degraded pasture land with extensive areas of tree savannah and sparse low tree savannah dominated by various species of eucalypts (e.g. Eucalyptus brevifolia, E. pruinosa and E. terminalis), several species of Terminalia and other genera.

Creeks and rivers through the area would have carried a relatively narrow belt of riverine forest largely composed of E. camaldulensis, E. microtheca, Terminalia platyphylla, Tristania grandiflora and others backed by E. papuana, E. confertiflora etc.

These trees were of course killed by the permanently risen water level and large areas of dead trees in the shallows of the lake bear testimony to this.

A foreshore at R.L. 90.53M (full storage level) of some 400 kilometres has been created and because of seasonal fluctuations from up to a couple of metres above R.L. 90.53M at the end of the wet season (around April) to possibly one or two metres below R.L. 90.53M at the end of the dry season (around December) large areas of land are subject to seasonal flooding somewhat similar to conditions which occur along rivers in the adjacent area. One consequence of this has been the colonisation of some areas by 'riverine' species.

RECONNAISSANCE SURVEYS

Only brief reconnaissance work has been done on these fringing forests by this Department.

In the first instance a ground reconnaissance was made of the Ord River backwater from Lissadell Station in April, 1981, and a reconnaissance flight was made (with the Department of Agriculture's ornithologist) in August, 1981.

THE FRINGING FORESTS

The species occurring in the fringing forests are mainly E. camaldulensis and E. microtheca and the seed source is likely to be riverine forests along rivers and major creeks flowing into the lake. Some development of Melaleuca leucadendron is also occurring but this is still small (1 to 1.5m tall) because apparently it was largely wiped out in the very dry 1979/80 season.

The most extensive development has occurred near to the mouths of the rivers and major creeks with less dense and younger stands occurring

more remotely from these areas. The major rivers are the Behn, Ord and Bow, and some of the major creeks are Stockdale and Smoke.

Fringing forests have developed in strips up to 100 metres wide near the rivers and major creeks where gently sloping land is subject to seasonal inundation, but the bands are much narrower in the more recently colonised areas.

Where seasonal inundation is occurring over heavy black clay soils, there is as yet no apparent development of fringing forests. However, it is likely that E. camaldulensis will eventually be able to colonise these areas subject to seed sources being available. Other species, such as Terminalia arostrata, could also eventually get going here.

At least some fringing forest appeared to be developing on all lighter soil types, despite being a very long distance from recognisable seed sources in some cases.

Very extensive fringing forests are developing up the Ord and Bow river backwaters and the old Lissadell homestead site is rapidly becoming a forested parkland area. Extensive development is also occurring around the Smoke Creek backwater.

Most development and potential development of fringing forests is on the southern and eastern foreshores of the lake, since the western foreshore is much more rugged and steeply sloping.

It is not possible to estimate the area on which fringing forest is developing and on which it has the potential to develop at this stage.

Behind the fringing forests, especially in the southern areas, there are very extensive bands of 'prickly wattle' (mainly Acacia farnesiana) which are virtually impenetrable to stock, man and vehicles.

THE FUTURE

With the likelihood of developing Lake Argyle as a source of hydro-electric power for the Kimberley diamond mining operation (likely to go into fullscale production in 1985) and Kununurra and Wyndham, the level of the lake will be raised probably six metres sometime prior to 1985. This will, of course, eliminate all presently developing fringing forests but will allow the development of new, even more extensive tracts.

The potential exists to manipulate the new forests before they start by introducing desired species, spacing etc., before natural development occurs.

It is likely that the new fringing forests will very quickly establish over much larger areas that those which currently occur because seed will be becoming available from the current fringing forests, especially of E. camaldulensis.

INTERIM REPORT ON RESULTS OF DIRECT SEEDING TRIALS WITH EUCALYPTUS WANDOO IN STATE FOREST, MUNDARING (1981)

by A.J. Hart

Results so far of direct sowings made in Eucalyptus wandoo forest along Helena Road in Mundaring division are shown in the following tables.

These include preliminary tests on pellet formulations prepared and carried out by T/A P. Hewett.

Direct seeding was carried out on 16 July, 1981, using the M.F. 165 and seeder, mounted on the M.F. 2-disc plow.

Moisture content of soils at the time of sowing was:

1. Upper slope : 17.12% (red brown gritty loam)

2. Mid slope : 21.22% (brown yellow loam)

RESULTS

A. Laboratory Tests on Pellet Mixes

The efficiency and suitability of the pelletting medium was approached from two aspects - firstly, the relative germination percentage for each mix (using Eucalyptus falcata). Secondly, a measure of comparative solubility was established by timing length of time to dissolve in two solutions, viz: water at N.F.P. and water at 30°C using blotting paper to measure dispersal of pellet materials during breakdown. The results obtained are shown in Tables 1 and 2; graphs 1-3 also refer.

Mixes tested are shown in Table 3.

B. Field Trials (Helena Road - Mundaring - S.F. Eucalyptus wandoo).

Interim results of the field trial at Mundaring indicate that: (see also Tables 4 and 5).

1. Placement of fertilizer accurately, significantly improves strike rate of sowings and subsequent development.

2. Apart from the pellet obtained from Forestry Supplies, Canberra, the pellet of Mix No 6 is giving better results so far.

3. All results have been impaired due to foraging and damage by kangaroos and possibly rabbits.

4. At present there seems little difference in results from the two topographical positions.

5. Sowing on a downhill sod placement is beneficial.

CONCLUSIONS

1. Accuracy in placement of fertilizer is essential to successful establishment.

2. Mix No 6 is the best local pellet formulation.

3. Faunal damage and grazing has had an unknown impact on establishment results to date.

TABLE 1

GERMINATION TESTS ON DIFFERENT PELLET MIXTURE COMBINATIONS (23 June, 1981 - 21 July, 1981)

Date	Species	No. of seeds	30/6 7 days	7/7 14 days	14/7 21 days	21/7 28 days	Total	Germination percent
23/6	Eucalyptus facalta	25						
23/6	1. peat moss + garden lime 50/50	1.	22	1	0	0	23	88%
		2.	21	0	0	0	21	
23/6	2. peat moss centre clay & peat moss coat	1.	20	0	2	0	22	92%
		2.	24	0	0	0	24	
23/6	3. all clay centre lime & peat moss coat	1.	12	3	1	0	16	66%
		2.	16	1	0	0	17	
23/6	4. peat moss & clay 50/50	1.	15	0	0	1	16	62%
		2.	13	2	0	0	15	
23/6	5. all clay centre clay & peat moss coat	1.	11	4	0	0	15	66%
		2.	14	4	0	0	18	
23/6	6. peat + lime centre 50/50; clay + ochre coat	1.	23	2	0	0	25	96%

TABLE 2

TABULATION OF RESULTS

Pelletting Mix No.	Germination % at (days) 7	14	21	28	DISINTEGRATION TEST (H_2O DNTP) No. secs to dissolve 1	2	3	4	5	Max. spread of mats. (cm) 1	2	3	4	5	DISINTEGRATION TEST (H_2O @ 30°C) No. secs to dissolve 1	2	3	4	5	Max. spread of mats. (cm) 1	2	3	4	5
1	88%	92%	92%	92%	81.9		42.9		48.4	2.5		2.8		3.7	17.6		19.8		15.8	2.8		4.8		3.5
	84%	84%	84%	84%		59.7		54.1			2.9		6.3			23.7		17.0			3.4		2.7	
2	80%	80%	88%	88%	28.2		30.1		42.3	6.6		3.2		5.9	14.8		15.4		18.6	2.8		4.5		3.6
	96%	96%	96%	96%		40.0		43.5			4.2		5.1			19.8		15.6			3.6		3.8	
3	48%	60%	64%	64%	20.9		25.6		33.1	4.6		5.3		3.2	19.4		23.8		27.8	3.0		1.3		0.5
	64%	68%	68%	68%		33.8		25.0			3.6		4.2			13.8		20.8			3.9		3.5	
4	60%	60%	60%	64%	34.2		24.8		28.5	3.8		2.9		3.3	36.1		20.8		24.3	3.8		3.6		4.4
	52%	60%	60%	60%		27.0		33.6			2.6		3.7			24.3		36.4			5.6		4.1	
5	44%	60%	60%	60%	11.0		12.1		9.9	3.0		1.9		2.8	18.1		26.3		22.5	3.4		3.9		2.7
	56%	72%	72%	72%		7.3		15.0			2.4		2.0			22.3		16.0			2.6		2.8	
6	92%	100%	100%	100%	132		89.6		69.6	0.1		0.0		0.5	59.1		63.3		50.3	0.2		0.9		1.1
	76%	88%	92%	92%		87.8		71.5			0.1		0.2			67.7		44.9			0.3		1.3	

CONCLUSIONS:

1. Mix No. 6 has given the better germination result compared to other mixes for an equal period of time.
2. Hot water (30°C) treatment has improved the rapidity of dissolving (see Graph 2-3).
3. Pellet materials tend to remain in association with and are dispersed with the water rather than remaining near the seed. This is considered important in maintaining the moisture levels near the soil to promote germination. (See results of Mundaring field trial, 1981).
4. Mix No. 6 is the most suitable for pelletting purposes for local use.

TABLE 3

SEED PELLETTING OF EUCALYPTS - COMO SEED STORE 1981

Pelletting Mixture Trials

Mixes used in pelletting (all using 'Methocell' sticker)

Mix 1 - Ordinary peat moss (fine milled and sieved) plus garden lime 50/50 (v/v)

Mix 2 - Fine ground peat moss centre with kaolin clay and fine ground peat moss coating

Mix 3 - All kaolin clay centre with garden lime plus find ground peat moss coating

Mix 4 - Fine ground peat moss and clay - 50/50 (v/v)

Mix 5 - All clay centre and clay and peat moss coating

Mix 6 - Find ground peat moss plus garden lime (50/50 v/v) with clay and 'Hansa' yellow ochre coating

Equipment:

Sieves, glue atomiser/sprayer ("Amway" window cleaner sprayer) "Methocel" glue, garden lime, peat moss seeds, electric cement mixer (smooth bowl), plastic bowls, heating ovens to dry pellets, pipette, distilled water.

TABLE 4

CURRENT STOCK PERCENTAGE FOR TWO RATES OF FERTILISER ON THREE PELLET TYPES (Species: Euc. wandoo)

Fertiliser rate	PELLET TYPE			Total percentage (all types)
	A	B	C	
1 (25gms/spot)	$\frac{17}{205}$ = 8.3%	$\frac{31}{200}$ = 15.0%*	$\frac{16}{200}$ = 6.58%	10.58
2 (50gms/spot)	$\frac{38}{451}$ = 8.43%	$\frac{24}{411}$ = 5.84%	$\frac{31}{319}$ = 7.21%	7.88
(Replicates 1 & 2 bulked)				
*Fertiliser application regarded as more accurate than rest of trial				

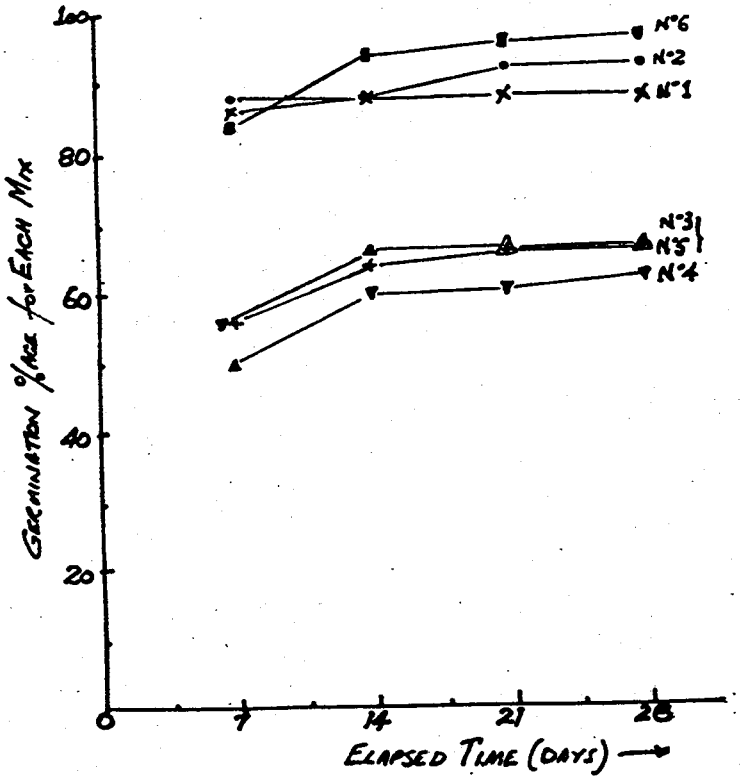
TABLE 5

CURRENT TREE PERCENTAGES FOR ABOVE TRIALS
(based on 14 pellets/drop & 84% germination)

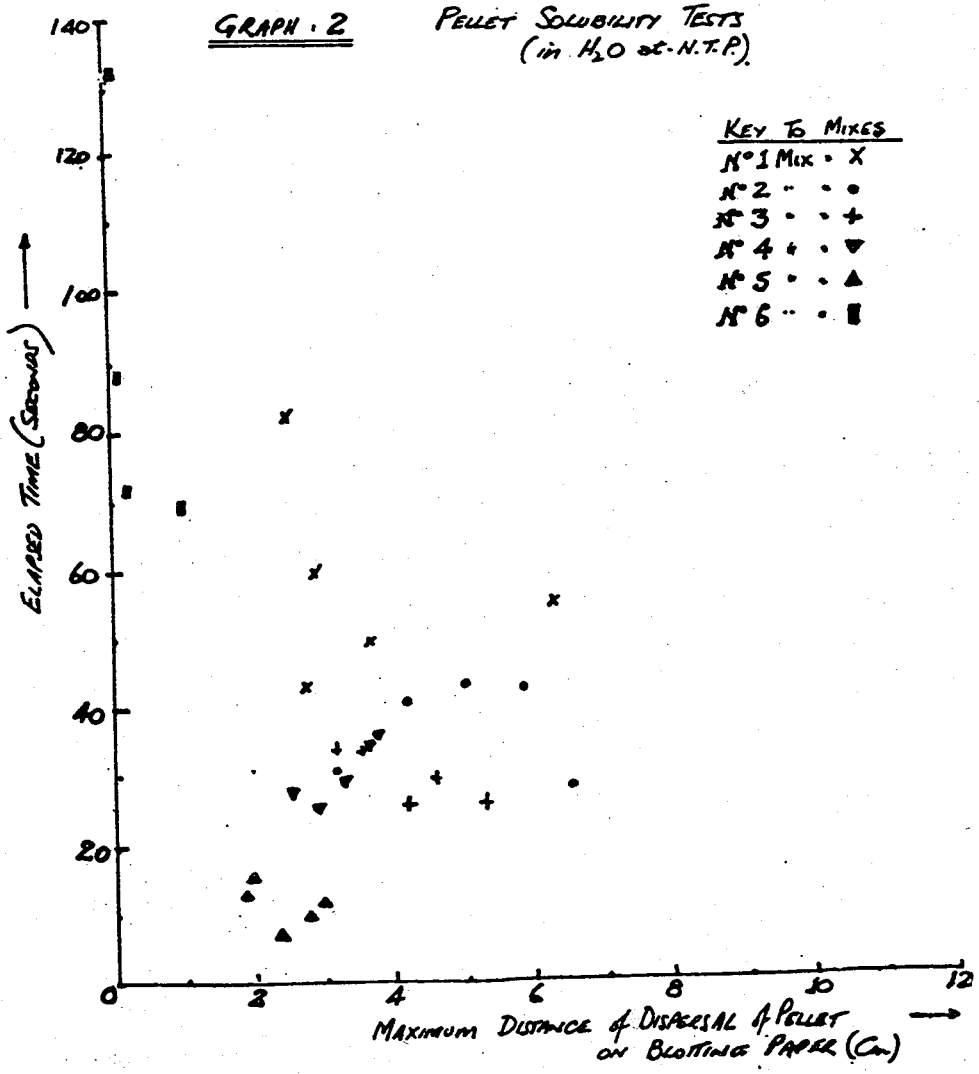
1	0.71	1.32	0.68	0.90
2	0.72	0.50	0.83	0.68

SEED PELLETTING MIXES

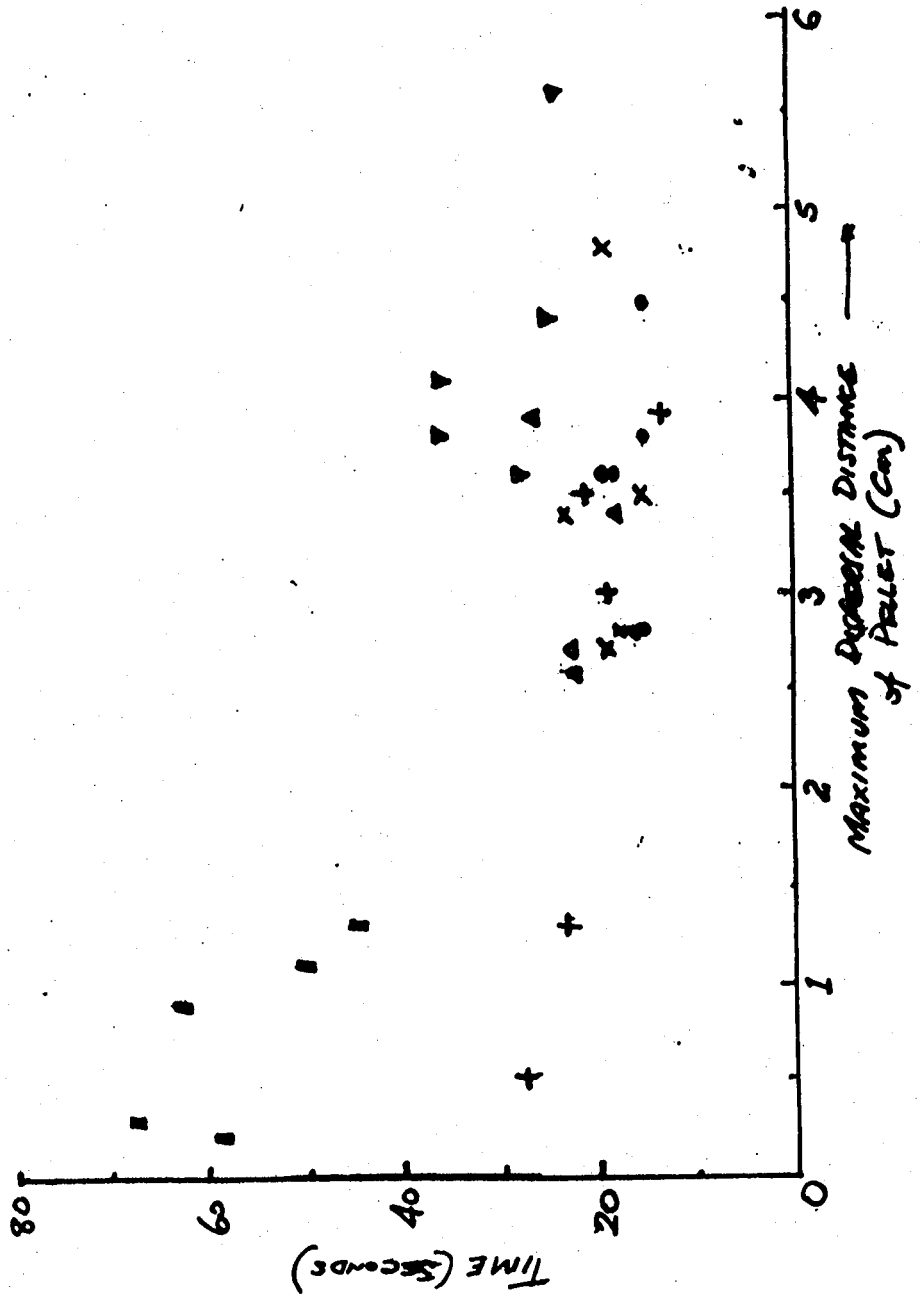
GRAPH 1 : GERMINATION PERCENTAGES for VARIOUS MIXES



GRAPH . 2 PELLET SOLUBILITY TESTS (in H_2O at N.T.P.)



GRAPH 3. PELLET SOLUBILITY TESTS (CONTD) (in H_2O at 30°C)



HARD HAT EXEMPTION POLICY

Policy Statement by the Departmental Safety Officer

In a continuing effort to establish a progressive safety programme, we hereby announce a unique policy of concern to everyone. It is a hard hat exemption programme. If you are one of those 'hard-headed' individuals that wants to let your hair blow in the breeze, who feels that his hard hat is shortening his neck, and that in general it is just a pain in the you-know-what, this programme is for you.

Every employee is required to wear a hard hat on the job. If you don't require this protection, you will be exempted from wearing a hard hat. How's that for progress? First let me make it perfectly clear that all employees will be required to continue wearing their hard hat until they obtain a certificate of exemption.

The programme works like this: Basically, if your head meets the standards for head protection you don't need a hard hat. Contact the departmental safety officer and he will schedule you for testing at the earliest possible date. Upon completion of testing, you will receive a beautiful embossed certificate suitable for framing, identifying your head as conforming to Australian Standards Z89.1 and Z89.2, Classes A, B, C and D. You will receive a wallet-size card that you must carry on the job. The test goes like this:

1. You will undergo a 24-hour water immersion test. Maximum permitted absorption is 0.5 percent by weight. Air will be furnished by the department for the 24 hours at no extra charge.

2. Passing that, an impact test will be conducted. While lying horizontal with your head resting on a steel plate, an 8 pound steel ball must be dropped 5 feet several times with no damage to your head.

3. Next your head will be subjected to a variety of acids, solvents, oils and industrial gases. It must pass with no damage or deformities.

4. A propane torch will be used to determine if your head is fire resistant. If only slow burning you may only achieve a Class A or B rating. If there are any holes in your head, it will restrict you from a Class B rating.

5. The final test: you must sustain 2200 volts, AC, 60 Hz, for three minutes with leakage currents not exceeding nine milliampers. Breakdown threshold has been established at 30 000 volts.

6. All tests must be conducted at a variety of temperatures ranging from 20 to 140 degrees Fahrenheit.

If you don't feel you can qualify, don't despair. Although not as pretty as your hairdo, your hard hat does provide protection for your head from all of the above. Remember, unless you receive an exemption certificate, you must continue wearing your hard hat. Not wearing one is a privilege that will be given only to those who undergo proper certification and are designated 'hard heads'.