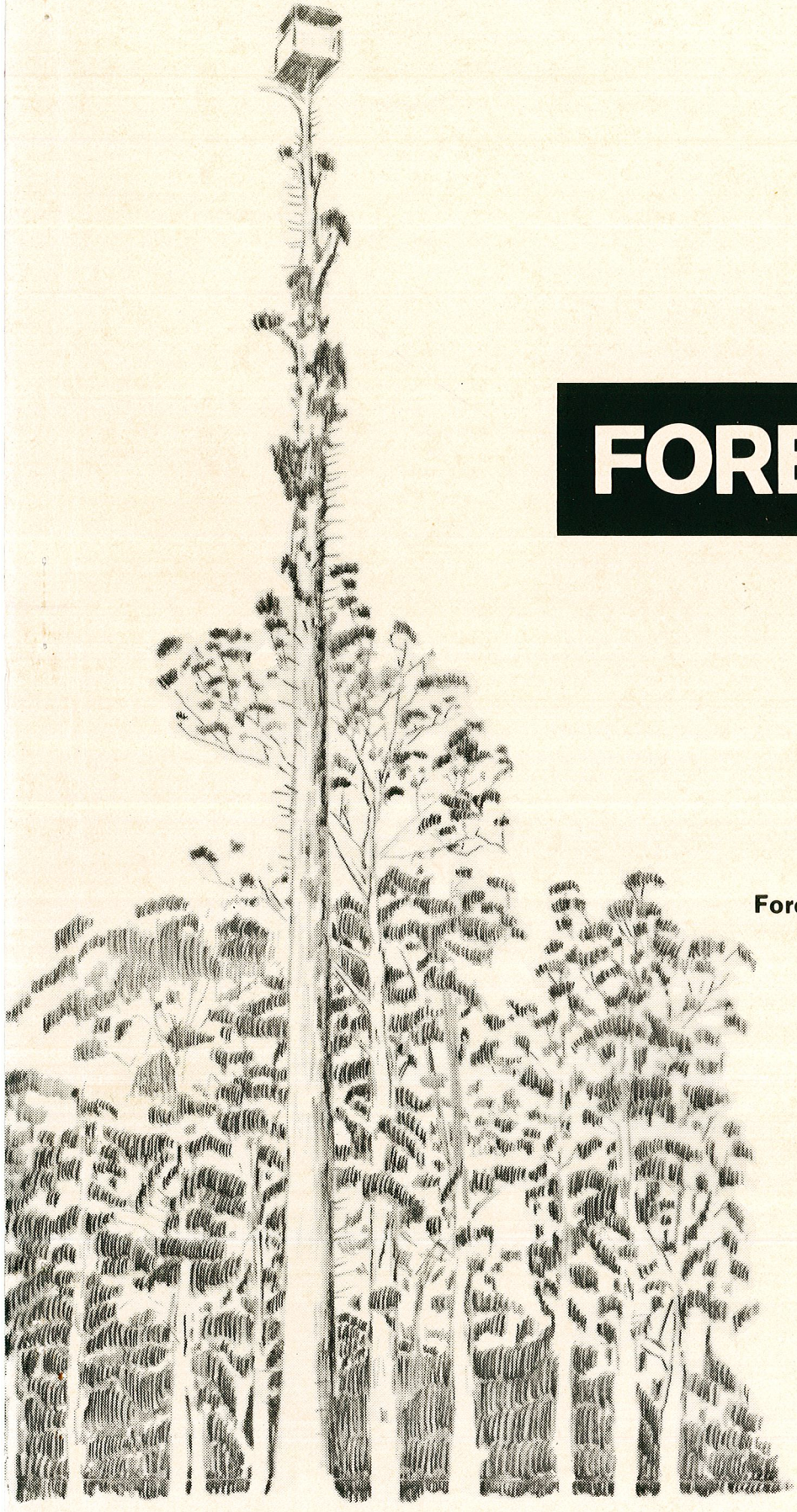

FOREST NOTES

Forests Department Perth Western Australia

VOL 19 NUMBER 1

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FOREST NOTES

Volume 19 Number 1

January 1981

CONTENTS

EDITORIAL NOTE

This issue of Forest Notes goes into print about twelve months after the last edition in early 1980.

The demand for Forest Notes to continue is strong, but is not matched by the supply of suitable material. This issue is not only small, it has drawn heavily on other sources, which is certainly not the wish of the editor.

On a more cheerful note, it is interesting to record that Forest Notes is now 19 years old and still going, even if not as vigorously as in earlier times.

Your support will ensure its continuation, and could even generate two issues per year.

STAFF NOTES

There have been many staff changes, promotions and transfers in the period since the last issue of Forest Notes, and it is not the editor's intention to detail all of these. The following highlights are, however, included for general information.

Forests Act Staff - Promotions

* As part of the latest Field Staff Agreement, some 25 officers were reclassified from Level 3 to Level 4 i.e., Forest Ranger to Assistant Forester.

* Congratulations to the new crop of Foresters, including Peter Keppel, Rod Simmonds, Kevin White, Max Rutherford, Ian Scott and Andy Rynasewycz and to new Technical Officers in Phil Nolan and Tony Brandis.

New Appointments in the Field

* Eight new Forest Guards were appointed in December, 1979, Geoff Hartnett (Nannup), G. Hughes (Busselton), G. Kealls (Walpole), Tom Kenneally (Harvey), B. Moss (Collie), T. Reilly (Manjimup), Mike Cully (Dwellingup) and Alan Scott (Cadet Groups).

* In addition, three former Forest Guards rejoined the Department: Alan Hordacre (Manjimup), Rob Fairclough (Dwellingup) and Dave McMillan (Gnangara), and new Technicians include G. Robinson (Communications), P. Deegan (Research), P. van Heurck (Research) and S. McArthur (Como Soils Laboratory).

Promotional Examinations

Congratulations to the following successful candidates in the 1980 Promotional Examinations.

FORESTER

Brad Commins
Steve Gorton
George Newman

ASSISTANT FORESTER

Mick Zwart
Carlos Cicchini
Greg Durell
Barry Jordan
Howard Manning
Fred Lindberg
Alan Scott
Greg Mair
Greg Standing
Ted Rouse
A. Byrne
Fred Colyer

TECHNICAL OFFICER GRADE I

Tony Brandis

TECHNICAL OFFICER GRADE II

Cliff Winfield

TECHNICAL ASSISTANT GRADE I

Drew Griffiths
C. Ward
B. Ward
Jim Dolman

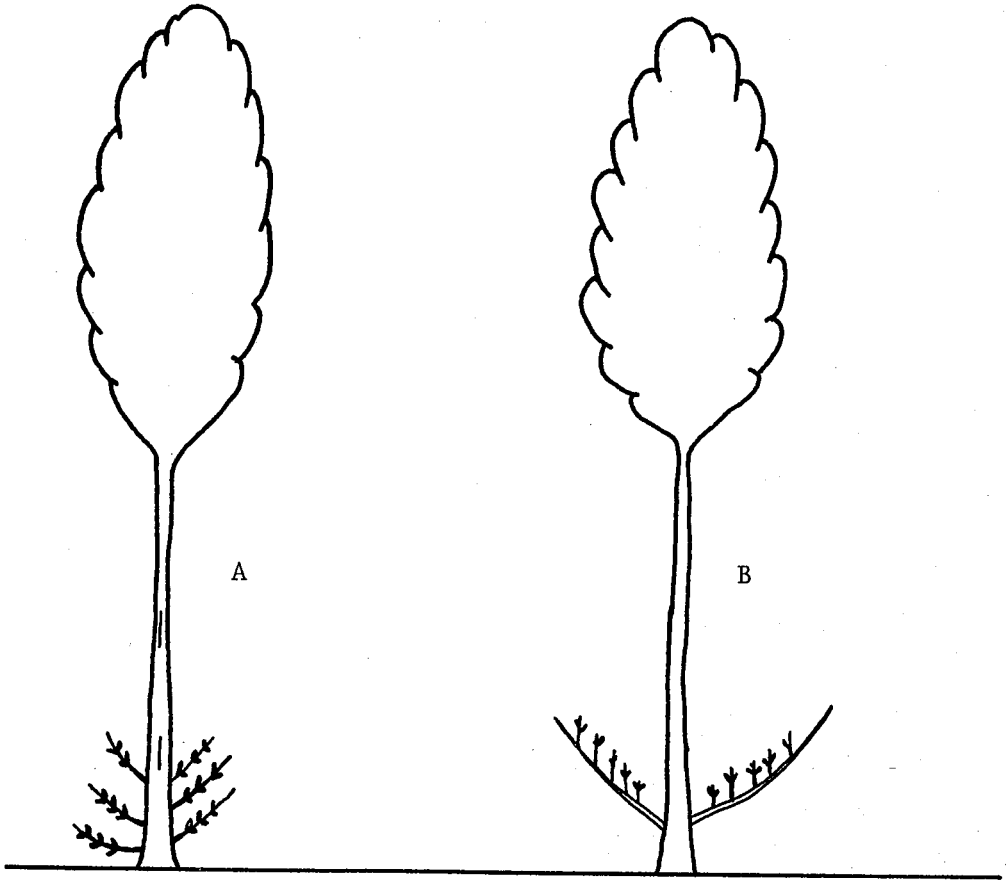
BLUE GUM BLUES

by John McCormick

Just over a hundred years ago there was a boom in blue gum planting in northern hemisphere countries. In more recent times we seem to be experiencing such a planting spree in the southwest. The tell-tale radiant blue leaves are appearing on farms, along roadsides, and even in metropolitan front lawns.

Undeniably the tree, *Eucalyptus globulus*, has a lot of character and when fully grown is a magnificent sight. Whatever the pros and cons for blue gum planting, this tree has been behaving quite strangely of late.

Firstly, bark cracking occurred and, as this increased, bole distortion became evident in young trees whilst, within the past twelve months, epicormic growth has appeared on the lower boles 'A' and unaborted lower branches 'B' thus:



It would appear that the metabolism of the trees is out of joint. A few trees have died; generally from the main (healthy) crown downwards finishing with the death of the epicormic growth.

Whilst at present the epicormic shoots grow quite vigorously, the cause remains a mystery.

SENIOR STAFF APPOINTMENTS

The public Service Board has approved the re-organisation of senior staff positions in Head Office, and the situation is now as follows:

CONSERVATOR OF FORESTS	Mr B.J. Beggs
DEPUTY CONSERVATOR	Mr P.J. McNamara
ASSISTANT CONSERVATOR	Mr F.J. Campbell
ASSISTANT CONSERVATOR	Mr S.J. Quain

CHIEFS OF DIVISION

- Harvesting and Utilisation	Mr J.B. Campbell
- Inventory and Planning	Dr E.R. Hopkins
- Research	Mr J.J. Havel
- Operations	Mr A.C. Van Noort
- Protection	Mr D.E. Grace
- Personnel, Extension, Training	Mr P.N. Hewett

DRIVE FOR FUEL ECONOMY

(adapted from Goodyear Car Owners' Club News Bulletin No. Z).

We can't do much about the rising cost of fuel. But we can save up to 25% by using less!

The following results arose from a recent test on two drivers in identical cars over a 350 km course.

Car 'A' was determined to pass everything in sight - THE HARE!

Car 'B' kept his cool - THE TORTOISE!

Both cars were fitted with tachographs to record average speeds, stops and number of times the brakes were used. Officials from fuel and tyre companies checked petrol mileage and tread wear.

RESULTS:

The Hare was 10% faster than the Tortoise, but he used 15% more fuel, 21% more brake lining and 85% more rubber.

The Hare in fact accounted for 32% more in direct costs for the journey!

CONCLUSIONS:

Avoid unnecessary acceleration, keep speeds down. The faster a car goes, the greater the air resistance and you burn more fuel.

This test on a Cortina 2000 shows the increasing thirst of the engine as the speed rises.

IN TOP GEAR	CONSUMPTION
48 km/hr	6.0 litres/100 kim (47.5 m.p.g.)
65	6.4
80	7.2
100	8.3
115	9.7
130	11.3 (25.0 m.p.g.)

A conventional family car (6 cylinders) gives around 9.4 litres/100 km (30 m.p.g.) at a steady 80 km/hour. Fierce acceleration increases consumption to 28 litres/100 km or 10 m.p.g.

Careful driving will certainly help conserve fuel, but external gadgets such as sun visors, roof racks, draft deflectors will also make significant differences. Why not test this story for yourself on your next long run?

ED.

WINFIELD WINS AWARD!

In association with the May 1980 conference in Rotorua, New Zealand, of the Australian and New Zealand Institutes of Foresters, a photographic competition was arranged.

It is pleasing to report that Cliff Winfield, who is Technical Assistant in the Como Seed Store and a keen photographer, received a MERIT AWARD in the Forest Landscape Section, with a colour photograph titled "SALMON GUMS".

It is all the more significant that this was the one Australian winner - the other five prizes were won by Kiwis!

CONGRATULATIONS CLIFF!

NEW FACES

Most of you are aware of the Department's ever-widening scope of operations and involvement in the whole spectrum of multiple-use management of the forest estate.

One result of these changes has been the employment of specialist staff in sophisticated fields including computer maps (the F.M.I.S. programme), Electronic Data Processing, and highly specialised research, and so on. In addition, some are employed under special financial arrangements and not under either the Forests Act or the Public Service Act.

Over the past couple of years the following appointments have been made:

Dr Brian Shearer	Research Officer	Dwellingup	P.S. Act
Dr Colin Pearce	Research Officer	Como I & P	P.S. Act
Dr Ian Abbott	Research Officer	Como Research	P.S. Act
Mr Trevor Boughton	Research Officer	Como Research	Reserve Bank
Mr Stan Sochaki	Research Officer	Dwellingup	Dieback Foundation

GRAVEL PIT RECLAMATION

by John McCormick

Gravel pits are a scar on the landscape yet with a little imagination they can be put to good use as sites for the display and conservation of native wildflowers. Looking ahead, they can provide an easily accessible seed source. Such seed may in turn be sold to those who commit acts of vandalism within the forest under the guise of progress.

The first thing that comes to mind when dealing with gravel pits is compaction; that is to say, has been compacted by heavy vehicles until it resembles a concrete pad. Plant colonisation, even after many years, is all but non-existent.

Another form of compaction is present where tree cover has been removed and areas left exposed to the elements for some considerable time. Again, colonisation is sparse. This form of compaction appears to be caused by rainfall, thus forming a thin crust which in turn presents an impermeable barrier to the roots of newly germinated seed.

Fortunately the compaction barrier is easily removed by ripping to a depth of around 30 centrimetres. It is not necessary to rip the complete pit area; single rip-lines at four to five metre spacing will suffice; rip-lines being in a direction parallel to the adjacent road. To prevent erosion, rip-lines should go with and not against the contour.

A formula for rehabilitation of gravel pits would run thus:

1. Stack and burn all wood slash.

2. Take the safety measure of battering down steep pit banks. This work should be minimal since ultimately it adds little to aesthetic value.

3. Put in rip-lines.

4. Seed and fertilise along rip-lines. Broadcast seed and fertiliser over sloping pit banks.

Seed Variety and Treatment

Native wildflowers fall roughly into two categories: fireweed and non-fireweed species. Fireweed species seed, i.e. acacias and papilionates require treatment before sowing. Non-fireweed seed does not require treatment, i.e. seed of the plant generas Hakea, Calothamnus, Callistemon, Kunzea, Melaleucas, etc.

The treatment of fireweed seed is simple. Place seed in a container and pour on boiling water. Use three parts water to one part seed by volume. Allow to soak for five or ten minutes then strain off

water. Seed can be sown immediately or air dried and stored until sowing time. Seed thus treated has been stored for one year at room temperature with no apparent detrimental effect on viability.

The Seed Mix

The type of seed generally used in reclamation work is that which is more readily collected in quantity. Unfortunately this can lead to monotony in variety, colour and strata. Even small amounts of the more difficult to collect species can break this monotony and produce good seed collection areas for future use. An admixture of fireweed and non-fireweed species is the more useful for general work. However, each area to be sown should be considered on its own merits. A few minutes thought by one person can prevent a decade of unsightliness for many.

A seed rate of two kilograms of mixed fireweed seed plus 100 grams of non-fireweed seed, e.g. bottlebrush per hectare should suffice. Experience gained will lead to a reduction in seed requirement. A small amount of tree seed can be included in the mix.

Sowing Time

Root box studies gave a shoot-root ratio of one to eleven for mixed fireweed species, i.e. when the seedlings were two centimetres high the roots had penetrated vertically into the soil to a depth of 22 centimetres. This indicates the need for new seedlings to establish a deep root system prior to the onset of dry summer conditions. Seed sown late in season will be largely or wholly eliminated by natural selection. Throughout the jarrah and karri forest regions the first of June would be the best commencing time for sowing. Sowing can take place throughout May, June, July and August, with June and July as the best months.

Germination

Wildflower seed is extremely hardy and retains its high viability even after a long time in storage. Germination failure with open sowings is not unknown but can generally be traced back to unripe seed. Lesser causes are, of course, parasitism of the seed by fungi and insects but these are easily avoided by proper seed storage.

NOTE: An insect parasite eats out the seed of the species Albizia lopantha whilst it is still on the tree. At seed collecting time, infested plants should be avoided.

Seeding and Fertilising the Rip-Lines

A two-man team is best for rip-line seeding. The fertiliser is applied firstly by the operator who throws (underhand) a good handful of fertiliser near the plant but not on top of it. The second operator follows and throws (underhand) a pinch of seed along the rip-line at seven pace intervals thus creating a continuous

fertilised rip-line at five pace intervals. The pinch of seed amounts to 20 to 30 seeds.

The Fertiliser

Any general purpose fertiliser will suffice, whilst superphosphate and Agras 12-50-0 have both proved satisfactory. Cheapness and availability are the best guide.

Selection by Fertiliser

If one year after treatment it is desired to favour one or several species above others sown, this may be done by applying ten grams of fertiliser to the plants to be favoured. If trees are to be favoured, apply 50 to 100 grams of fertiliser per tree. Plants thus treated will soon become dominant.

FACTS YOU SHOULD KNOW ABOUT GOVERNMENT CARS!

(Adapted from July, 1980 'BUILDER')

Did you know that government cars have the following features rarely found in private cars?

* They travel much faster in all gears - especially reverse!

* They accelerate at a phenomenal rate from a standing start.

* They enjoy a much shorter braking distance.

* They have much tighter turning circles.

* They can take ramps (or any other obstacle "hazard") at twice the speed of private cars.

* Battery, water, oil and tyre pressure do not have to be checked nearly so often.

* The floor is shaped like an ashtray.

* They only burn high octane fuel.

* They can be driven for miles with oil warning light flashing.

* They need cleaning less often, especially inside.

* The suspension is reinforced to allow carriage of concrete slabs and other heavy building materials, for urgent weekend work.

* They are adapted to allow reverse gear to be engaged whilst the car is still moving forward.

* The tyre walls are designed to allow bumping into and over kerbstones at any speed.

* Unusual and alarming engine noises are easily eliminated by the adjustment of the fitted radio volume control.

* No security is needed - the vehicle may be left unlocked with keys left in the ignition.

* They are designed to tow loads far in excess of normal and are ideally suited for backing into water at boat loading ramps.

* Their kilometres-per-litre decreases alarmingly at weekends, causing the necessity to fill up on Fridays and again on Mondays.

HISTORICAL FEATURE

by R.J. Underwood

At a time when regeneration by direct sowing eucalypt seed is being planned and researched in the karri, on the Wellington and in the pits, the following historical note is of interest.

Lifted from an old 1923 file, it described methods used in the sowing of the mallet plantations at Dryandra. The author, unfortunately, is anonymous.

. . . . . .

Forests Department
PERTH, 21st March, 1934.

ARTIFICIAL REGENERATION OF BROWN MALLET
(Eucalyptus astringens)

GENERAL

A number of years of experimentation and commercial regeneration of Brown Mallet by the Forests Department in the Narrogin District has proved conclusively that the regeneration of this species is very easy, and cheap, and a good business proposition.

Although it is found that Mallet can be established and thrives on a large number of different soil types, the farmer is interested only in those types that are useless for cropping or grass growing. The ideal types of this class are the typical rough Mallet "breakaways", the rough gravelly Wandoo (white gum) slopes, and the Powder Bark (spotted gum) slopes and valleys. These unarable tracts timbered with Powder Bark and with a dense growth of box poison are suitable areas for the growth of Brown Mallet. There is a considerable acreage of such country along the Great Southern Railway, and it is regrettable that nothing has been done by land-holders in the past to regenerate Mallet on these areas.

Regeneration by burning under seed trees is not recommended, as the method is not always certain, owing to the destruction of seed by the fire, and the resulting crop is confined to patches of excessively dense stands separated by more or less unstocked areas. The method outlined below, that of "spot sowing" seeds, is very cheap and should result in up to 95% germination and survival.

COLLECTION OF SEED

The trees from which seed is to be collected should be carefully selected, large, well-formed, well-grown, mature trees, ensuring seed which will give the best results in plantation.

All branches carrying mature seed vessels (gum nuts) are lopped and spread out on a tent fly or other suitable sheet, which is staked out on the ground in such a way that the corners are elevated 18" to 2ft. above ground level, forming a large shallow basin in which the seeds and chaff collect. Coarse hessian is useless, since the seeds are very small, and would be lost. A 12' x 14' sheet made from super bags would be ideal if tent flys are not available.

If a large amount of seed is required, several such sheets should be used to save time.

The branches are thrown loosely on the sheets to provide for free circulation of air, and a pole may be rigged up, say 3 feet above the sheet, on which other branches may be leaned.

Two to three days of bright sunlight opens the seed vessels, and the seed and chaff falls out on to the sheet. The branches are now thrown off, after being well shaken to remove all the seed, and the residue left on the sheet is sieved to remove twigs, leaves and seed vessels that may become broken off; the seed and chaff remains. It is practically impossible to remove the chaff from the seed, nor is it necessary.

The handiest sieve for this job is made by cutting a petrol tin in halves lengthways, and replacing the bottom of the container thus formed with zinc gauze. The perforations of this material are most suited for the work, and are preferable to punching holes in the tin, as the latter method results in uneven perforations which are either too large or too small. Fly wire is not suitable, as the material in the sieve clogs between the cross wire strands. If zinc gauze is not available, small holes 1/12th to 1/10th inch in diameter punched in the bottom of the tin will serve.

Seed can be collected during the months from November until March.

REGENERATION

It must be realised that to obtain the best results mallet seed must be sown on ashbeds. The ash left after the burn plays a very important part in securing rapid development in early years.

The correct method of procedure is:

(1) The area to be regenerated is "chopped down", no grubbing or ploughing is necessary. It is also advisable to slash all tall scrub, say everything over 3 ft. This ensures a good even ashbed over the whole of the area.

(2) After a summer on the felled area, it is burned up at the opening of the burning season with as fierce a fire as possible. It may be as well, at this juncture, to sound a note of warning with regard to the burning operations. Every precaution should be taken to prevent the escape of the burning off fire. The area to be burned will be in a highly inflammable condition, with all the trees down, and all the

very tall scrub slashed and dry, and the resulting fire is liable to be dangerously fierce, and will escape if adequate breaks are not provided.

(3) The sowing is started immediately after the burned area has cooled down, and must be completed not later than the end of May, or the first week in June.

(4) Method of Sowing

At intervals of approximately 8 ft., in lines 8 ft., apart, "spots" are cultivated with a light garden hoe with a shortened handle. The "spot" is a circular cultivated area, approximately one foot in diameter, and four inches deep. The soil is merely loosened and stirred up, not excavated and refilled, as this would tend to place all the ash at the bottom of a hole filled on top with raw soil, which is a condition to be avoided.

The earth is firmed down with the foot, leaving a saucer-shaped depression to retain moisture; the saucer should not be too deep or the seeds will be smothered with wash from the burned area; an inch deep at the centre is ample.

A small pinch of seeds (3-4 seeds) is scattered over the spot, not deposited in one heap, and a light dusting of earth is kicked over the seeds.

The absolute necessity of sowing on an ash bed must be realised by anyone attempting to regenerate Brown Mallet, even if it means deviating somewhat from the regular spacing, patches of ash must be followed up in the sowing. No spot should be prepared in the centre of a heap of ashes, but seeds may be sown on the edge of the heap left by burned logs, but it must be thoroughly understood that, if there has not been a good complete burn resulting in a good ash bed over the area, the germination and subsequent growth of seedlings will not be satisfactory.

(5) Quantity of Seed

Seed is sown at the rate of 4 acres to the pound of seed and chaff, and the tent fly well filled with good seed-laden branches will yield up to 4 pounds of seed, but this, of course, will vary with the amount of seed vessels on the branches.

(6) Future Treatment

After sowing no further attention is necessary until the plantation is 3 years old, when it will need sucker-bashing to liberate the young Mallets from the competition of the suckers. At the same time the fire-breaks around the plantation will need attention to ensure that no fire gets in while the bashed suckers are in an inflammable condition.

After this first sucker-bashing, which must not be delayed beyond 3½ years nor carried out before the plantation is three years old,

further treatment will vary with each individual plantation, and must be decided upon after inspection of the condition of the stand.

A final note of warning: Just as the absolute necessity of a good burn in the felled area has been stressed, so also must be stressed the absolute necessity of keeping fire out of the established plantation. Brown Mallet is exceptionally fire sensitive, and the radiant heat of a big fire up to two chains away is liable to kill, or seriously damage even fairly old trees. Good breaks must be provided around the plantation, and these must be kept in order until the stand is in such a condition that it is no longer in danger from fire, and that will not be until it is nearly ready to strip.

Advice on any particular problem arising is always available from officers of the Department in the District.

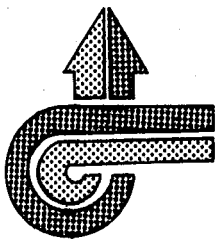
50 000TH HECTARE OF PINE FOREST

During winter 1980, the Department planted its 50 000th hectare of conifer plantation!

The following are net areas of pine, by decades and shorter periods, as extracted from Annual Reports:

1922	79 hectares	1960	12 828 hectares
1930	1 964 hectares	1970	30 240 hectares
1940	5 375 hectares	1975	39 228 hectares
1950	5 457 hectares	1978	46 196 hectares
		1980	50 000 hectares

In 1979, we exceeded 175 000 cubic metres of pine logs produced for the first time and in 1980 the figure was 186 363 cubic metres.



Road
Traffic
Authority

IF EVERYONE

IF EVERYONE WHO DRIVES A CAR COULD LIE A MONTH IN BED, WITH BROKEN BONES AND STITCHED-UP WOUNDS, OR FRACTURES TO THE HEAD, AND THERE, ENDURE THE AGONIES THAT MANY PEOPLE DO, THEY'D NEVER NEED PREACH SAFETY ANYMORE TO ME OR YOU.

IF EVERYONE COULD STAND BESIDE THE BED OF SOME CLOSE FRIEND, AND HEAR THE DOCTOR SAY 'NO HOPE' BEFORE THE FATAL END, AND SEE HIM THERE, UNCONSCIOUS NEVER KNOWING WHAT TOOK PLACE, THE LAWS AND RULES OF TRAFFIC, I AM SURE WE'D SOON EMBRACE.

IF EVERYONE COULD MEET THE WIFE AND CHILDREN LEFT BEHIND, AND STEP INTO THE DARKENED HOME WHERE ONCE THE SUNLIGHT SHONE, AND LOOK UPON THE VACANT CHAIR WHERE DADDY USED TO SIT, I'M SURE EACH RECKLESS DRIVER WOULD BE FORCED TO THINK A BIT.

IF EVERYONE WOULD REALISE PEDESTRIANS ON THE STREET, HAVE JUST AS MUCH THE RIGHT-OF-WAY AS THOSE UPON THE SEAT, AND TRAIN THEIR EYES FOR CHILDREN WHO RUN RECKLESSLY AT PLAY, THIS STEADY TOLL OF HUMAN LIVES WOULD DROP FROM DAY TO DAY.

IF EVERYONE WOULD CHECK HIS CAR BEFORE HE TAKES A TRIP, FOR TYRES WORN, LOOSE STEERING WHEELS AND BRAKES THAT FAIL TO GRIP, AND PAY ATTENTION TO HIS LIGHTS WHILE DRIVING ROADS AT NIGHT, ANOTHER SCORE FOR SAFETY COULD BE CHALKED UP IN THE FIGHT.

IF EVERYONE WHO DRIVES A CAR WOULD HEED THE DANGER SIGNS, PLACED BY THE HIGHWAY ENGINEERS WHO ALSO MARKED THE LINES, TO KEEP THE TRAFFIC IN THE LANE AND GIVE IT PROPER SPACE, THE ACCIDENTS WE READ ABOUT COULD NOT HAVE TAKEN PLACE.

AT LAST, IF HE WHO TAKES THE WHEEL WOULD SAY A LITTLE PRAYER, AND KEEP IN MIND THOSE IN THE CAR DEPENDING ON HIS CARE, AND MAKE A VOW AND PLEDGE HIMSELF TO NEVER TAKE A CHANCE, THE GREAT CRUSADE FOR SAFETY THEN WOULD SUDDENLY ADVANCE.

Distributed by the Road Traffic Authority as a public relations service and in the interest of road safety in Western Australia.