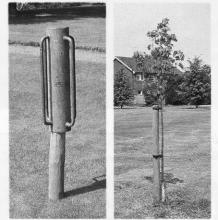
forest transplants. You shouldn't need to stake whips except perhaps on very windy coastal sites. If you need to stake whips use one inch square hardwood stakes driven into the ground on the windward side of the tree. Tie the tree to its stake with soft string.

It can be very tempting, when planting whips, to treat them as if they were forest transplants. It is fatal to try and stuff their root systems into tiny holes. Each whip needs to be treated as an individual and given a planting hole which will accommodate its entire root system properly. If you curl the roots round to make them fit into a hole that's too small, they'll grow permanently like that. You'll reap the harvest of such folly when they blow over in later life.

Tree shelters are not normally used with whips because of the difficulty of fitting the narrow tubes over the side branches of the whips. It is quite common practice, however, to put plastic, spiral, rabbit guards round the stems of whips. Unless you fit them carefully these guards won't cover all the vulnerable areas of bark. They can also damage the trees if you don't check them regularly.

Where rabbits are a problem I think it's better to plant in groups and then fence off the entire area with rabbit-proof netting.



A drivall (left) and traditional staking

STANDARDS. These trees, with a trunk clear of branches for six feet are the largest that you are likely to plant. Standards look rather formal and artificial and are best planted in formal, rather than



semi-wild areas. They have the biggest root systems and so need the biggest planting holes. They also need staking.

The technique of planting them is to remove the surface vegetation over an area of a square yard and then excavate a hole three inches square by two feet deep.

If you are planting in turf, then I would suggest that you remove the turf carefully using a half-moon and turfing-iron. This will ensure that the perimeter of the hole is neat and square, matching the formality of the standard.

When you dig the soil out of the planting hole I don't think it's necessary to try and keep the topsoil and sub-soil separate. I know that all the text books tell you to do so but in practice it is a bit unrealistic. When the hole is big enough to take the root system of the tree that you are planting, fork the bottom over to improve the drainage and break up any pan.

Next, place the tree in the hole and work out the best position to insert the stake. Basically you want the stake somewhere on the windward side in a position where it can fit between the fingers of the root system.

If you are using the traditional eight foot stake, remove the tree and drive the stake into the ground using a drivall. This is a steel cylinder, sealed at the top, which is used for pile driving fencing and tree stakes. It is a much safer weapon than a mallet used off a pair of step ladders!

With the stake secure, put the tree in position. The trunk should be vertical, about two inches away

from the stake so that it doesn't chafe. You can now backfill the hole making sure the soil has been broken down to a fine crumb size.

After replacing every two or three shovelfuls of soil, shake the tree up and down to work the soil round the root system. When you've covered the root system consolidate the soil with the heel of your boot. Finish off the backfilling and give the soil a final firming.

The tree is now planted and can be tied to the stake. With an eight foot stake you'll need two ties - one just below the top of the stake and the other halfway down the trunk.

Finish the job off by pricking the surface of the soil over to relieve any capping and help rainwater penetration.

You'll notice that I haven't suggested adding anything to the soil in the planting pit. No wellrotted manure, peat, tree planting compound or fertilizer, not even the turf first taken off to dig the hole. Quite honestly, on golf course soils your trees will grow just as well without any additives. In fact, recent scientific research has proved that trees grow just as well without fertilisers or soil conditioners.

The things which do matter are to protect the root hairs all the time the tree is out of the ground and also to keep the area round the base of the newly planted tree free of competition from other vegetation.

Strange as it may seem, many trees are killed each year by misguided kindness. Here's how it happens. Tree pits are excavated in fairly heavy soils, the excavated material is carted off site and the hole backfilled with a high quality compost. When it rains the hole becomes a sump for the less permeable soil surrounding it and the root system is drowned. If you put back only what you dig out this is less likely to happen.



Continued on page 40







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NOMBBOOK...

Niche for new grader

GRADEALL International Ltd of Dungannon, Co. Tyrone, have been associated with the screening and grading industry for over nine years. With this wealth of experience, coupled to the feedback from customers over the years, the company recognised a niche in the market for a compact grader suited to the needs of turf surfaces.

The Beaver is highly portable, easily transported by a landrover. It has a 2 T capacity feed hopper with direct feed as standard, although belt feed or tray feed options are available for variable applications.

The Beaver is compact, yet with a robust design to withstand years of abuse. It is self contained using a Diesel electric or Diesel hydraulic power units although the unit is easily adaptable to mains power.

Save your skin!

TO DEMONSTRATE

OCCUPATIONAL dermatitis is the commonest of all health problems caused by work activities, accounting for the majority of compensation claims made through the DHSS.

But few appreciate it can become serious enough to cause permanent disablement. A national awareness campaign on occupational dermatitis has been launched by the Health and Safety



The unit's compact features with its aggressive set of shredders and high frequency screenbox offers the greenkeeper the ultimate in producing the highest quality top dressing possible.

Executive's Employment Medical Advisory Service to focus attention on the problem.

Many substances commonly used at work can irritate or sensitise the skin with unpleasant consequences.

As soon as any rash develops it is vital that medical help be sought immediately.

Copies of <u>Save your Skin</u> leaflets may be obtained by telephoning 051 951 4545

New irrigation manual

THE new 4th edition *Turf Irrigation Manual* is a major update and expansion of this popular reference work, designed for engineers, architects, landscape architects and contractors. Published in the USA, over 25,000 copies of prior editions have been sold.

Based on years of research, field experience and accumulated techniques, the turf irrigation manual utilizes over 250 illustrations to present a step-bystep approach to the design process including: equipment, basic hydraulics, sprinkler performance, plot plans, head layout, pipe sizing and zoning.



New material added to the 1987 edition includes: (1) design criteria for water conservation; (2) soil/water/plant relationships; (3) special considerations for shrub and ground cover watering; (4) evaluation/examples of computeraided design; and (5) simplified calculator program for determining pressure losses in piping.



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Betchton, Sandbach, Cheshire, CW11 0TS. Telephone 04775 255/6 Telex 367122 TIS G

....NOTTEBOOK

Open Sesame!

EVERY time Tony Cuthbert drove to or from his mid Wales farmhouse, he had to get out of his car and open and close three farm gates.

This performance became such a chore that he used his electonics skills to devise the simple but ingenious Autogate, which works the gates automatically and is powered from a simple 12 volt car battery.

The gate swings into action at the touch of a button - either on a hand transmitter with a range of some 30 metres, or from a button mounted on the gate post.

Now the product is being made available by Wolseley, the electric fencing specialists, for use anywhere where automatically opening and closing gates could be a benefit.

Sales manager Eddy Palin sees a

major benefit being quick and easy installation of the Autogate. There is no expensive and timeconsuming mains power to be dug in - once the gate, posts, and opening mechanism are fitted and wired to the battery, it is ready to go.

A simple built-in timing device vatries the gap between automatic opening and closing from a few seconds to three minutes.

An automatic cut-out prevents the gate moving if it hits an obstruction, thus preventing damage to the Autogate or the object, whether it's a cow or a car.

The gate takes so little power that a single car battery will endure three months' heavy use before it needs recharging. As an option, a gate-mounted solar panel will keep it contrantly charged up.

More details may be obtained by phoning Wolseley on (0584) 3131.

Seed Here!

BRITISH Seed Houses Limited have announced that their 1987 autumn catalogue, covering amenity grass seed mixtures for golf courses, is now available. Phone BSH on Warrington (0925) 54411 if you would like a copy.

South Atlantic success

FERTILISER specialist Vitax Limited has just completed its second major export order to the Falkland Islands.

It is just over a year since managing director Trevor Martin led a management buy-out of Vitax from giant Steetley organisation and in that time he has built-up profitable export markets in Europe, Israel and Australia. Vitax can be contacted on Burscough (0704) 893311





...NOTTEBOOK

A Real Wizz

A.F. Trenchers is offering the Wizz

Wheel for high-speed sand-slitting. Suitable for tractors of between 60 and 120hp with category two and three linkages, the Wizz Wheel can cut trenches 50mm wide speeds of over 2,000 metres/hour depending on tractor hp and soil conditions.

Adjustable disc coulters pre-cut the turf ahead of the digging wheel to ensure a clean trench edge, and a 'floating' crumber cleans the bottom of the trench behind the digging wheel. Maximum depth of cut is 510mm, maximum width, 125mm.

For efficient soil collection, the digging wheel is totally enclosed above ground by a chute which is made in two sliding halves for depth adjustment. This allows accurate hydraulic laser grade control to be fitted to the rear half as an optional extra and ensures that the front half maintains constant contact with the ground. Excavated soil is discharged from a side outlet and dumped to a height

Quick work

THE Toro Lawn Vacuum and Leaf Blower enables you to make quick work of outdoor clean up. It's two machines in one, 30ins wide vacuum for lawns, paths, driveways and a blower for leaves and other litter.

The Vacuum head can adjust to seven positions so clean up is swift, easy and very efficient. It is



of two metres by a soil conveyor, hydraulically driven by the tractor. For road transport, the conveyor can be raised and locked in the vertical position beside the digging wheel.

Approximate cost is £7,500 (plus VAT), with clean-up chute and highlevel conveyor. Full details from A.F.Trenchers on Colchester

self-propelled by 5HP Brigg's and Stratton engine and has a large capacity bag.

An optional vacuum hose is available for cleaning up under shrubs and hedgerows. More information is available from: Lely (UK) Ltd, Station Road, St. Neots, Huntiongdon, Cambs. Telephone (0480) 76971

Export honour

SOME 370 employees, together with local dignitaries and representatives from overseas distributors, attended the presentation ceremony, held at Ransomes' Nacton Works in Ipswich, of the Queen's Award for Export Achievement to the company's grass machinery division.

The Award was presented to Ransomes' group chief executive Bob Dodsworth by the Vice Lord Lieutenant for Suffolk, Major General John Dye CBE MC DL. Celebrating its 200th Anniversary in two years' time, Ransomes is the largest manufacturer in Europe of grass cutting machinery for the professional user and ranks among the top three in the world.

More than half of the grass machinery division's output was exported to over 60 countries around the world last year alone. Destinations included seemingly unlikely places such as Iceland, Saudi Arabia and Nepal. Much of the overseas trade is with other EEC countries. But exporting is nothing new to Ransomes. Its first overseas sales were made as far back as 1810.

It was during the 19602 the company introduced two new types of mowers that were to lead the way to today's high output, cost effective machines.





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...NOTEBOOK

Read all about it!

IN an attempt to make golf club officials mush more aware of the risk involved in choosing course watering systems simply on price, Toro Irrigation Limited have just published a twelve page booklet on the subject.

Labelled the *Thinking Man's Guide to Golf Course Watering* the booklet urges golf club secretaries and greens committees to consider the technical implications of each automatic watering system design put before them.

"In my experience, it is very evident that many clubs do not fully understand what they are shown on paper", says Peter Roberts, general manager of Toro Irrigation.

"Even more important" he says, is the fact that greens committees do not generally invite the people who designed the system to meet them and explain the technicalities behind the proposals".

"Club officials seem to think they are looking at like for like when considering various watering system designs, but, in my experience, they are not!"

Copies of the new booklet have been sent to club secretaries throughout the country and additional copies are available through Toro or their regional destributor and dealer network.

Alternatively, write to: Toro Irrigation Ltd., Unit 7, Millstream Trading Estate, Christchurch Road, Ringwood, Hampshire. BH24 35D.

Tyred out!

A PORTABLE, pneumatic tyre bead breaker from Denmark is being introduced by Axeline Eastern Limited of Boston, Lincs.

The Kema Bead Breaker is both small, 13.4" wide x 10" high (340mm x 255mm), and light, weighing 22lb (10kg). It can be used to loosen agricultural tyres, earthmover tyres, forklift tyres, implement tyres, tractor tyres and truck tyres in seconds.

The Kema Bead Breaker is gentle to both tyres and wheels despite developing up to just over a ton of thrust (2300kg). It requires just 16 litres of compressed air to operate and could even work off the air in a spare wheel.

A wide range of specialist tyres and wheels for machinery and equipment for the amenity, landscape and turf markets is also available.

Axeline Eastern staff will be pleased to advise on any 'turf' tyre or wheel problem - telephone 020579 - 531.

New team for Rufford

RUFFORD Top-Dress Supplies, based at Rufford near Southport, who burst on the Top-Dress market late last year, have recently announced a list of distributors and agents appointed to make their product throughout the U.K. For further details telephone Rufford on (0704) 821314.



Rocol Makes its Mark

A QUICK, easy, simple and highly visible line marking system is available from Rocol Ltd - Rocol Easyline. A range of eight paints, packed in giant 30oz spray cans speeds up marking out of all surfaces.

Rocol Pitchliner, when used in conjunction with the Easyline paint, allows hard surfaces, grass and synthetic surfaces to be efficiently marked without the mess and time involved with conventional line painting methods.

More information can be obtained from the publicity department at Rocol Limited, Rocol House, Swillington, Leeds. LS26 8BS



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TREES...

Continued from page 31

Standards have to be staked for the first few years after planting, but what is the best length of stake to use? I've explained about the traditional method of using an eight foot stake, but in the last few years the fashion has changed to using a much shorter stake.

The reason for doing so is this. When you stake a tree you do so in order to help the root system become established. Provided that the roots don't move about, the rest of the tree above the ground can look after itself. In fact the trunk benefits from swaying about in the This is because a tree wind. produces strengthening wood in response to the forces acting upon When a tree is supported but it. doesn't build up the strength it needs to withstand the wind. As a consequence. when the stake breaks or is removed, the trunk can't cope with the real conditions of the site and may be damaged by austing winds.

A standard, staked with a short three foot stake, will develop into a stronger three than one staked in the traditional way. There are also other benefits. Short stakes are cheaper than long ones and are much easier to drive into the ground.

Just a final point about tree stakes. They are only needed to do their job for the first few years after tree planting. Therefore, there is no need to buy the expensive ones treated with wood preservative. You don't want them to be rot-proof and last for ever. It is much better that they rot off at ground level and give the tree a chance to learn to stand on its own feet.

So I think that you'll see from this that the most expensive specification for tree planting isn't necessarily the best. Use short, untreated stakes and no soil additives and your trees will thank you for it.

The next article in this series is concerned with tree maintenance.

BOOKS...

Continued from page 24

simply stated that nature would select the plants best fitted to survive in any particular habitat under the influence of the climatic, edaphic and biotic factors that were present.

Then men started to get clever and believed that, by the use of cultivational and chemical measues, they could get the better of nature and these processes of adaptation and succession.

Nature was not slow to strike back and show that She still had a few tricks up her sleeve!

The first indication lay in the disastrous dustbowls of Mid-America in the 'Thirties, when ploughing-up the prairies to give higher productivity instead gave a chance for wind to erode both the soil and the seeds and crops therein, which didn't really stop anyone for long, for commercially and politically there was a lot of mileage in using these aids.

Once again, today, we are seeing that nature has defeated modern agricultural methods. It may be possible to eliminate the need for such old-fashioned routines as rotation and, by chemical means, to keep on top of diseases, but there is an everincreasing price to be paid. We are now seeing that the community is not willing to pay that price.

Copying these methods on golf courses has produced horrific problems and we are all finding that we have no alternative but to return to sounder practices – not right back to pure undiluted nature, but to a more sensible balance and the science of plant ecology is essential to that process.

