

THE *Mushroom* JOURNAL

OFFICIAL JOURNAL OF THE MUSHROOM GROWERS' ASSOCIATION
AUGUST 1993 NUMBER 524 ISSN 0144-0551



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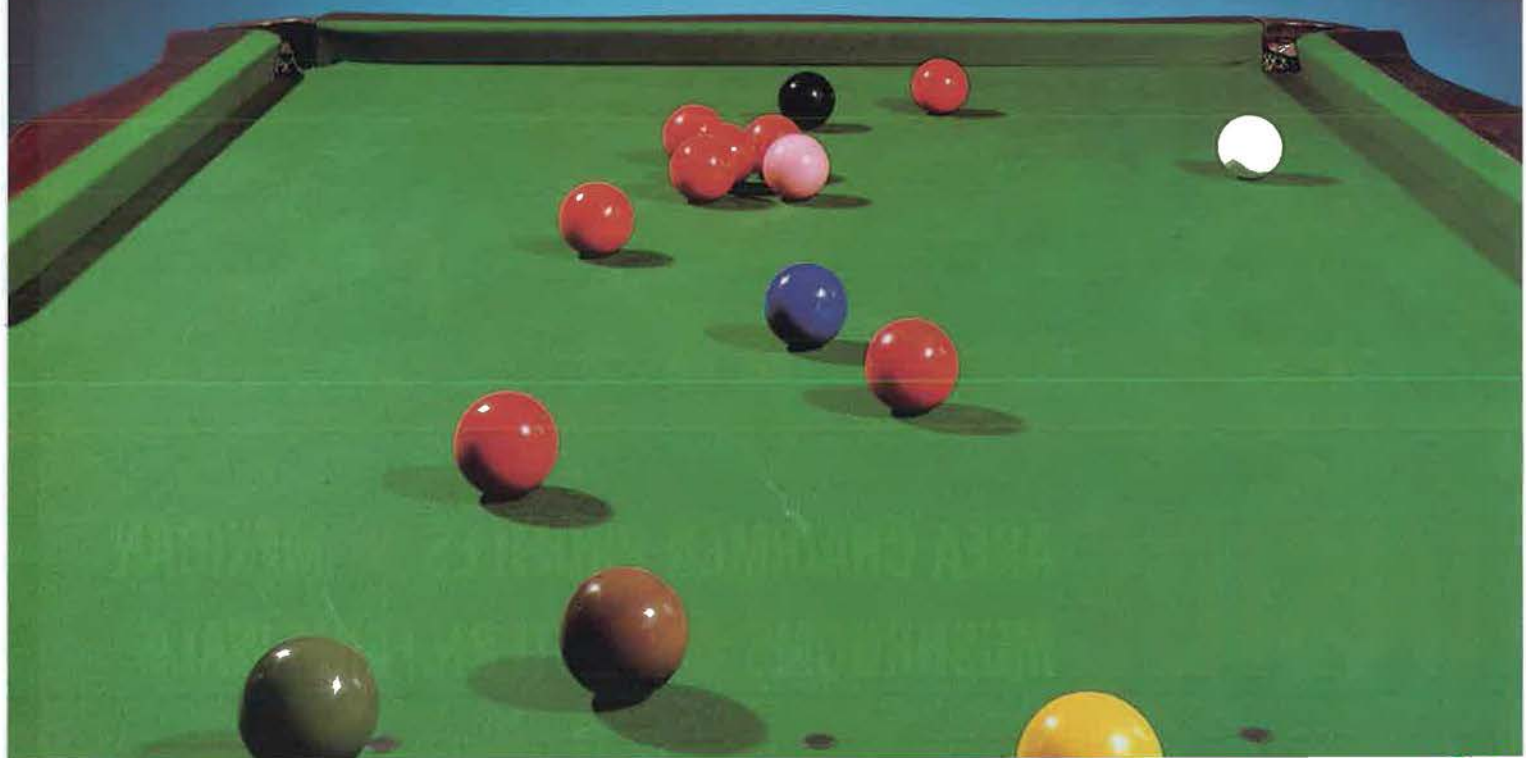
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Articles for consideration are welcome; also letters for publication which should make a point strongly and as briefly as possible. They may be faxed or posted and should be addressed to the editor.

The editor, editorial advisory board and the MGA do not necessarily support, nor are they responsible for, statements made by contributors to the Journal. The leading article is normally a statement of MGA policy.

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THE Mushroom JOURNAL

August 1993

No 524

EDITORIAL

A personal link with the MGA

Area meetings are the only personal link that many growers have with the MGA. To be an area chairman, a grower must take on a few responsibilities.

On the day of the area meeting it all goes so well: the speaker does his piece, the area chairman thanks the speaker, a discussion is held which includes an update on what is current at the MGA, and everyone retires to the bar. Looks a piece of cake. Well there is quite a lot of planning put into this, and quite a bit of the area chairman's time. This is the one commodity that we all profess not to have.

By the time that you have read this month's Journal, I hope that you will know a bit more about your area chairman and the chairmen of other areas. Reading their profiles one can only say what a diverse bunch they are. Each one of them has been extremely busy over the past few years using all their skills to make their farms more efficient and to keep up with the demands we are all under. One demand is to deliver a higher quality product each time at the same or lower price in real terms.

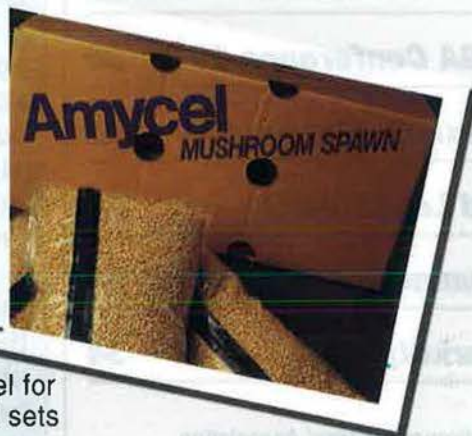
Our industry is fast approaching the crossroads on price and quality. If we turn left or right, we can only expect to have more of the same, finally deteriorating into the graveyard for old, useless mushroom farms. Ahead is where we should be going but, as we all know, in these summer months someone has dug a six feet wide hole across the road. By the side of the road is a half-ton steel plate which would cover the hole so that we may drive over, but it will take a few of us working together to lift the plate to carry on with our journey.

Your area chairmen have each set themselves goals over the past years, but the future goals, from what they say, will be goals set by the mushroom industry. Have you a view on where this industry should be going? Or the targets that it should be achieving? Have you put these views to your area chairman? New ideas are always welcome, without them stagnation occurs, deterioration sets in, and our industry could die. Do we want an epitaph with the words of John Pomfret, "We live and learn, but not the wiser grow?"

So next time we see our area chairman a) we will discuss our views, b) give him some ideas for subjects for area meetings, c) offer some help to take the load off his shoulders, and d) thank him for doing such a sterling job.

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New UK Agriculture Minister aims for thriving, self-confident agriculture industry

Stressing the importance and value of the food and farming industries to the economic health of the nation, Gillian Shephard pledged herself to create the climate in which these industries can flourish.

Mrs Shephard set out some of her key objectives as Minister of Agriculture, Fisheries and Food. These include:

- taking initiatives to encourage better marketing and promotion of farm products;
- removing red tape and advancing the Government's deregulation initiative in food and agriculture;
- ensuring that Britain's farmers are subjected to no more EC regulations than their competitors in other member states;
- maintaining the consumer's confidence in quality and safety throughout the food chain;
- ensuring that environmental considerations are an integral part of CAP schemes.

Speaking during a visit to the Royal Show at Stoneleigh, on 5 July, Mrs Shephard said: "Eighty

per cent of the UK is farmland. Farming is the mainstay of the rural economy – and the farming and food industries make a fundamental contribution to the economy of the whole nation. Together they account for nine per cent of GDP and 14 per cent of all jobs – a major contribution which is too often ignored and underplayed.

"I want to make sure that this rural voice is heard throughout the land. For town and country are not two separate worlds. The farm gate is linked to the supermarket shelf by a continuous and necessary chain of economic and social interdependence.

"That is why all my responsibilities as Minister – to consumers and to the environment – to the food industry as well as to farmers – are interdependent.

"Of course no government can ensure agricultural prosperity. What we can do is help to create the climate in which farmers and growers can flourish".



Major General Sir Philip Ward, Vice Lord Lieutenant of Sussex, Presents the Queen's Award for Environmental Achievement to Paul Richardson at HRI Littlehampton.

HRI receives the new Queen's Award for Environmental Achievement

Horticultural Research International Littlehampton has just been presented with the new Queen's Award for Environmental Achievement for the development of insect parasitic nematodes as biological control agents for insect pests, including mushroom flies. The strategic research leading to the isolation of effective nematodes and the development of workable systems for mushroom fly control was carried out by Paul Richardson and his colleagues with funding from the Ministry of Agriculture Fisheries and Food and the Agricultural and Food Research Council. The Agricultural Genetics Company Limited, developed large scale methods for nematode production and the product is now marketed under the name Nemasys by AGC's Microbio Division, which also received a Queen's Award for this achievement.

Dr Ron Fraser, Head of Station at HRI Littlehampton and Director of Research in Crop Protection said, "we are delighted at receiving the

Queen's Award in recognition of the pioneering work by Paul Richardson and his colleagues. These biological control agents are part of our research effort to develop environment friendly methods of pest and disease control. The parallel award to AGC Microbio recognises the importance of rapid transfer of advances from the strategic science base to technology that can be used by the mushroom growing industry".

Please note that on 21st June 1993 the office at Station House Produce, at Ripley Drive, Normanton Industrial Estate, West Yorkshire closed. From that date all communications should be directed to:

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Hank Taylor recovered and back at work

Hank Taylor, who in 1991 resigned his post with the Canadian MGA of Executive Vice-President and editor for health reasons, writes to say that he now feels as good as he did when he was forty years old. Not surprising then that he has been persuaded to return as editor of Mushroom World.

Mushroom World appears quarterly as the official publication of the Canadian

MGA and Hank is hard at work on the September issue which will be concerned with changes in national mushroom production levels over the past five to ten years. We are delighted to hear that you are fit again, Hank, and look forward to reading future issues of your journal.

From the Cambrian News, we hear that extraordinary "fishing fungi" from the rainforests of Ecuador are growing happily in a tropical glasshouse on the Penglais campus of the University of Wales, Aberystwyth.

They are the focus of a research project by PhD student Sandy Pollitt, who has returned to Ecuador to collect some more – as part of a major British fungus expedition.

Sandy's supervisor and expedition leader, Dr John Hedger, a regular visitor to Ecuador, discovered the "fishermen", which represent a completely new type of fungus.

The remarkable organism spends its entire life-cycle high up in the rainforest canopy where it extends its rhizomorphs, or aerial "roots", into nets between the branches. These nets catch falling

leaves and twigs and have a mechanism which glues the material in place within a few days, securing it for subsequent digestion. The information on the fungi of the area will assist the Ecuadorean government in its development of a conservation plan.

Jeff Green advises us that the mushroom section of their business will close on 31 December. Mushrooms have been grown on the site continuously since 1958, although production was considerably increased when, together with Andrew and Stephen Dales, Jeff formed Arun Valley Mushrooms Ltd in 1972. Jeff has been in mushroom production since 1945. He was MGA Chairman in 1984-85.

The business will now concentrate on flowers production – one sector of horticulture which is seeing improved consumer interest.

Jeff is obviously sad to lose contact with mushrooms, but profits do not justify the investment which is necessary for long term development in an area where environmental pressures become progressively greater.

We wish them success in concentrating their resources. As a Life Honorary Member Jeff will still keep his links with us, but the MGA will be the poorer

for the lack of active support from all the directors.

A National Symposium on Mushrooms has been organised by the Mushroom Society of India and the National Centre for Mushroom Research and Training (ICAR). The date will be 8-10 April 1994, to be held at the National Centre for Mushroom Research and Training, Chambaghat, Solan – 173 213, Himachal Pradesh.

The last date for pre-registration will be 31 October 1993. For further details and information contact: Dr B. L. Dhar, Secretary, MSI, National Centre for Mushroom Research and Training (ICAR), Chambaghat, Solan (HP), India 173 213. Telephone (01792) 2851, -3767 (office). Or contact the MGA Office, Stamford.

Quality Champignons Ltd, of Budapest, are pleased to announce that on 26 October 1993 they will be holding their IVth National Mushroom Day organised by Korona Mushrooms Inc. (Conference and farm visit in Gyor, West Hungary).

(For more details contact Dr Tasnadi on tel/fax (36) 1-185-4995 or fax (36) 36-20 198 or contact the MGA Office, Stamford).

Mushroom Bureau

Adrian Sampson is delighted to report that a majority of mushroom growers have pledged to keep mushroom publicity going. From 1st July Victoria Lloyd-Davies began handling the mushroom publicity campaign from her London address: 27 King Edward Walk, London SE1 7PR. Telephone: 071 261 1086. Fax 071 401 3588.

Joan Cracknell will continue to distribute all our recipe leaflets. Please continue to contact Kitty at the MGA and she will arrange for Joan to send them to you as usual.

DIRECTOR'S NOTES

Views from the grass roots

On the assumption that area chairmen have a nose for what is happening in their patch, the comments by several of them in this month's issue, should give members something to ponder. One of them did suggest to me recently, that the UK mushroom industry seems to be more intent on individual survival than making real efforts to influence its future. Not such an odd comment as it appears on the surface. How many of you could survive if you were not plugged in to electricity, water, gas and sewage? Just another way of collaboration to maintain a reasonable life-style.

De-regulation

Yes please. Perhaps the government means what it says, for the MGA is just one horticultural organisation which is being consulted on the issue.

At the April meeting of the European Mushroom Group, I gained much support for the concept of abolishing EC support for mushrooms – in the EC and to third countries. In their de-regulation note, MAFF suggests this as a long term aim for all horticulture. So there is one area where we may have common objectives.

I will keep members posted on progress. In this general area of interest – or boredom! – the EC is reviewing regulation 1035/72 relating to horticulture. This regulation includes common quality, producer organisations and safeguard measures against a market

being put into a crisis by third country imports.

It may sound uninteresting, but changes could have a major impact on our industry. I have been asked to participate in an NFU working party to advise the Commission. Council will make their contribution in September.

Wholesale Charter

If you are a British grower, have you responded to the request for your views on the agreement reached by the NFU and the Fresh Produce Consortium (Wholesalers etc), to make improvements in the way that primary markets function? We need your thoughts.

Coming to Bath

It must be in your diary by now – 11-13 November. Whether you are low tech, or high tech, this conference is essential for the health of your business.

Public relations

Have you sent your commitment to Adrian Sampson, to ensure that mushrooms continue to remain high on the shopping list. If you have not, write/ring him today.

Ken James



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GROWING PAINS

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1 June

Increases in *Dactylium* with the current humid weather is not good news. Although it mainly appears at third flush there is **severe spotting** on caps at second flush. Do you recognise this? June Journal on 'Pathogens' is timely and will help to concentrate the grower's mind to the problem. **Is this a chemical resistant *Dactylium*?** I hear from some growers that they are experiencing persistent outbreaks of *Verticillium*. That is something we can well do without, particularly if any resistance to Sporgon has occurred. I imagine all chemicals are consistent in their quality?

I hear the gentle (evil) clap of mushrooms being dropped from a great height into the mushroom punnets! Not again ...

We are actually getting close to correct weights in the containers at picking so avoiding the need to re-handle during the packing process. I really wonder if we should do some packing at the growing shed end? But how can we maintain the control standards at levels which will prevent quality creep? It all revolves around the morning or the night before? **Or continuing staff attitude problems.**

2 June

Compost moistures too variable. With our tray phase II system we are running too wet, while no doubt if we were in bulks we would be too dry. **Controlling compost moisture is not easy.** Our current straw quality is making it far worse than in a normal year, but as Peter Munns has told me for 25 years, what's a normal year.

3 June

Delighted to have Ray Samp visit and be able to spend

many hours discussing cultural aspects with a person **who knows mushroom growing.** Resolving problems will happen when the dilution of the range of **possibilities** has been changed to **probabilities.** Then, if you can minimise such effects, a suitable commercial programme can be made. An outside eye coupled with close questioning to establish why you do an operation in a certain way is a great advantage. Often leading to the discovery that you **didn't know** why you did it that way in the **first place.** Such an understanding between the visitor and growing staff **can reap rewards well outside normal management relationships.**

4 June

Saviour Gauci from Malta and Dr Erdemir of Erhat AS, in Turkey, added an International flavour to our day by them visiting the Snowcap Farms. Discussing their growing problems put our mild heatwave into perspective! It is always fascinating to be able to talk with mushroom growers who are coping with extremes of climate and under such conditions producing top quality mushrooms. **Always discussion reverts back to the quality of the compost.** How do we measure this quality? **Subjective personal assessments.** (Please help!)

5 June

The work invested in the organisation of the first MGA Seminar resulted in over 150 people attending (I had said 200, so I was wrong!!) the venue at East of England Showground at Peterborough. The subject 'Casing' attracted forward looking trade suppliers and the wealth of international speakers attracted many mushroom growers from all corners of the globe. **The balance of science and growing experience from**

this presentation seemed to work about **right.** It most certainly resulted in a most varied and deep discussion. There was a degree of **frustration, disagreement** and a slight sense of **anger,** but for the first time in years, **growers united!!!** Just the thing to make a Seminar. No doubt the organisers will assess the programme questionnaire coupled with any reasonable suggestions for future events. **The format was right. I am sure it was a rewarding day for all, satisfying to the organising MGA team and a major international step to the future for our association.**

9 June

Costs still rising and any slight signs of an increase in

sales price will be **short lived.** Our aim is to convert our product to the highest returning grade range available which has been undermined by the **ever increasing** range of variety packs. For example, the original idea of a lower quality household range has reversed from a low cost to a higher quality pack. **(A fore backhand approach, Dan Maskell).**

(Note for week is to tackle costs and destroy traditional approaches).

10 June

Increase in Sciariid flies at our Woodhurst farm seems to be connected with its enclosed central corridor environment (or the compost). Taking over



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GROWING PAINS

cased trays reduces the **likelihood** of flies building up to damaging levels but even a few can be such a disease hazard. Resorted to atomising pyrethrum every evening when closing up the farm. (I imagine heavy formalin spraying would be used in other countries!!)

11 June

Received request from someone outside the industry to be trained in mushroom growing!! Out come the yellow pages to refer him to his nearest **head shrink!!**

13 June

Checked with production foreman that spawn coldstore conditions were being monitored with **samples** being taken, **stored for two weeks** before use so enabling us to check back on **current spawnings'** quality control. All appeared in order with received temperatures correct, each bag inspected; our ambient control system prior to usage is being carried out; **and all spawn pre-tested?! Good news?** Do we store casing mycelial additives in a similar way to spawn? **Bad news?** Is all spawn re-tested?

14th June

Jim and I had a naturally enjoyable visit to Jim Rothwell to discuss mushroom growing, **such a rare treat these days**. Having lost our way with compost-making (due to **odour** complaints, material quality and lack of room) it was a delight to compare notes with Jim. The similarity of problems was quite staggering. The ideas for our future developments stood in front of us working in total commercial practice. Superb tunnel-prepared compost being fed at high speed into growing trays seemed an enormous reward in relation to our traditional tray peak heating. We have to change; always a priority time decision on a mushroom farm. Is the flavour of the month, year, supermarket!!

15 June

HDC panel meeting at Wellesbourne **brought home to many** the need to **create commercially usable results** and the total lack of adaptable knowledge in recent years (**open the mind**). A previous touring around the new mushroom research and development facilities should give rise to a hope that a new **'Mushroomology Era'** was about to be created. A multiplicity of small and large plasticated growing chambers around a preparation-centred composting area of **total traditional standards** appeared to give a more than adequate range of facilities. Perhaps developments in the mushroom world are stoic in such instances. I guess the first opportunity of the industry viewing this mushroom unit will be at the **second HDC Mushroom Open Day next year**. (Certainly I have missed the Journal reports.) No plans have appeared in the Journal. Maybe there will be a **special opening** which from the progress being made with construction could be in the early autumn. **A total involvement of industry should have already been secured.**

16 June

As anticipated, a genuine Pinkerton telephoned with great alarm about this dense white mould growing throughout his compost, having the simple effect of preventing mushroom mycelium developing!! What a surprise?! It sounds typically like white plaster mould, similar to the symptoms that we had recently experienced, but only with about 15% of the cropping trays (not so easy to see as in plastic bags, **get black bags!!**). We were certain it was due to very poor quality straw bales which we had to use for several weeks. Our farm quality control and supposedly quality assurance from the suppliers had been thrown out of the

window, purely due to material shortages. **The real world!!** A reverse situation to the sales relationship.

17 June

Great day enjoying cricket with Barney Greenhill at Lords. Much discussion on mushrooms, children and cricket. Can't wait for next year.

18 June

Individual mushroom weights too low generally, but even worse this week. Have concluded it is due to too low a **dry matter fill** (this is, of course, the controlling factor to farm output) in each **square metre of tray**. The quality standard on any commercial farm.

Yet another supermarket inspection. God, paint shares must be the investment for the future!!

21 June

Casing mix requiring about 20% more water and mixings made prior to use on Mondays are absorbing moisture at an alarming rate. My being convinced we had to let our mix stand to absorb water, we are sometimes caught as to the correct quantities. Treat it like a compost and regulate according to materials and weather conditions. (It really is quite simple!!)

22 June

Compost analysis revealing (a word not used) higher nitrogen levels but still **irregularly high moistures** at spawning. You change one factor and expect this to be revealed in the analytical change. It appears that sometimes you need to move several points to see any real changes. Anyway we need to reduce the height of our pre-wet piles, **like by 70%!!** About time we had some discussion on analytical services and result analyses that are important to the grower!! Pre-wet piles, 1/2 metre, we are now covering 500 ha of Yaxley. New knowledge please!!

23 June

Some areas of **extreme mycelial** growth in the

casing layer even after four or five day venting. The effect of an eight-day spawn run complete with casing mycelial supplement is causing some **latent mycelial vigour**. Moisture levels are very high (what is high?) and at venting you simply see very small amounts of mycelial growth. We are dropping bed and air temperatures quickly in order to avoid a mycelial explosion at eight days from casing. **I question the rate of mycelial additives we are using?** It is 20% below the stated rates. How were the stated rates **determined** and under what conditions of **spawn run or casing type?** There is much to learn and understand, no doubt the current research and development programme will be experiencing problems similar to ours. Is it also a fact that manufacturing variations are another area that the grower has to combat? I doubt the understanding of the genetic nature of mycelial using additives.

24 June

When will quality standards appear in the form of **material controls**.

25 June

Have been trying to encourage growing team not to use shed lights when carrying out inspection checks, but to rely on their high-beam torches. Concentrating on given points around the shed involves a more concentrated focal condition rather than observing the whole scene. Anyway we shall give it a try and no doubt **revert back to traditional ways**. The major problem on many production sites; **open the mind**.

27 June

Having to produce large flat mushrooms as part of our sales policy is always causing problems. Too small; too closed; too large; not enough; **far too many!?** Estimating what to leave for flats is a well trained judgement; **a situation we have not yet managed to**

master. Over many years I have been unable to convince people of the problems that are probably going to occur from contamination from infected spores to healthy mycelium and the threat of virus infection. **In fact it is only those in the industry that have experienced real virus problems that are in dread of mushroom spores.**

28 June

Had to return to cooking-out full trays prior to emptying. Having recently seen tons of uncooked compost in polythene bags just dumped in huge piles in any area, I am assured there is nothing like **getting your own back!!** But to get **somebody else's** back is unpalatable!! An experience of seeing phase I compost transported from a **heavily virus-infected farm** to a clean site, with subsequently disastrous results, helps to concentrate the mind. **Nobody breaks the principles of mushroom growing without reaping the unsavoury rewards.**

29 June

Started work on enlarging and improving our composting area. It rained all day!! Mud, mud, glorious mud, but anyway we have at **last** set about making a **production investment** in place of coldstores, packing sheds, canteens, toilets, office computerisation and supermarket requirements. Perhaps it will help us control the quality and flow of product and even bring our production levels up. It will certainly be a shock to have room to move our compost and when Ray Samp visits again he won't believe it!!

30 June

The shock of working on improving production has concentrated the mind on installing a whole range of quality standards in producing the crop. A voice in my ear, **"Pieter Vedder, tells me, 'Geoff, better get the people first'".**

Instruments can lie!

By Peter Flegg

Reading is believing?

I'm sure we are all familiar with the advice not to believe all we read in the newspapers. I expect most of us follow it from time to time.

How about believing everything our mushroom growing instruments tell us? Do we always believe them implicitly? After all, some of them don't come cheap. Mercury-in-glass thermometers look fairly foolproof and those computer printouts backed up by all that electronic wizardry must surely be reliable enough. Well, probably there is nothing to worry about most of the time, but an occasional check-up is well worth while.

A broken glass thermometer is usually pretty easy to spot, even detecting that the mercury thread has separated into two or more sections should not defeat the careful observer. However, glass thermometers and temperature probes do not have to 'look' broken to give misleading readings.

Temperature probes can make use of several electrical properties which are proportional to the temperature. Some rely on a change in electrical resistance with temperature, and some are made from semiconductors whose electrical properties vary with temperature. Yet others depend on the electrical current generated when two dissimilar metal wires are joined together. The amount of current flowing depends on the temperature difference between the two joins in the wires.

Whatever the type of temperature probe, they depend on the measurement of some electrical property and this probably means delicate sensing elements and fine soldered connections. Such joins can be vulnerable, especially under mushroom growing conditions. Being run over by a fork lift would

probably bring the useful life of a sensitive probe to an abrupt end and even dropping it on the floor could cause damage. A resultant weakened electrical contact may well allow the probe to function but give erroneous, even erratic, readings.

Regular check-ups minimise errors

One answer to errant temperature measuring devices is to check them against an instrument guaranteed to be within close limits of accuracy. These tend to be expensive – and how do you check on the 'accurate' standard?

Another approach is to check probes and thermometers using an ice-water mixture (0°C/32°F) and boiling water (100°C/212°F). It is important to make sure that the probes and thermometers can safely withstand such extremes, especially the boiling water.

There is, however, a much simpler check. It is easier to carry out, once a crop, if you like, but it is less reliable. Simply bundle all the probes together, an elastic band holding them together will help, and swish them around in a bucket of water at about their usual operating temperature, say, around 15-20°C (60-70°F) for probes used in cropping houses and 50°-60°C (115°-140°F) for those used in phase 2.

Provided the water is well stirred by the probes, they should all read the same temperature. Those differing significantly from the others can either be discarded or, if you do not fancy disposing of expensive equipment, be given a label saying, for example, '+2°C'. In future, readings taken from this instrument can be corrected accordingly. This generally simple check can be improved if, at the same time, an instrument of known accuracy is included in the batch.

MGA WELCOMES NEW MEMBERS

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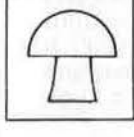
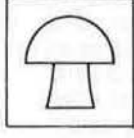
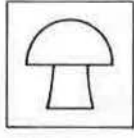
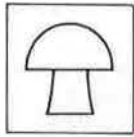
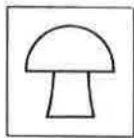
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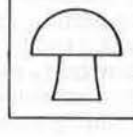
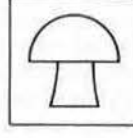
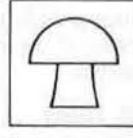
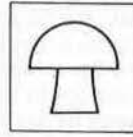
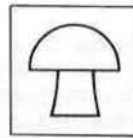
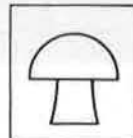
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EASTERN AREA FARM WALK

Planning and attention to detail

Glorious June, just the month for a farm walk. These pictures tell a different story of weather, but it in no way detracted from a very interesting and useful visit to Pond Chase Nurseries, hosted by Tim Cripps – with back-up from father Sid!

Over 40 members saw the excellent quality and presentation of mushrooms, both white and brown strains. Such excellence is achieved through careful planning and attention to detail – with plenty of time spent around the farm by Tim.

Investment in raw materials and compost handling equipment, means that consistency of the growing medium is maintained. Good compost yard practice, ensures that



A product to be proud of. Tim Cripps with packhouse staff Val Crouch, Clare McGowan and Jamie Cave.



odour problems are kept under control.

After a thorough investigation on farm, members enjoyed refreshments, with the cream cakes provided by Tim! Discussion continued into

Sid Cripps demonstrates a long serving investment, one of the first automatic tray tipping machines, still in active service.

It was good to have retired MGA Director, Winston Alderton with us, seen here with Sid Cripps on the right and Simon Alderton on the left.

the evening, always a good indicator of maximum interest. Area Chairman, Damian Hearne expressed sincere thanks to Tim and Sid for a most enjoyable day.

Continued on page 14

EASTERN AREA FARM WALK



From left to right: Area Chairman Damian Hearne, Sid Cripps with Peter Woad, Tex Cresswell, Jeremy Jacobs and Alasdair Day all from Blue Prince.

MORE FROM THE MGA SEMINAR

Two more pictures from the first MGA Annual Seminar on mushroom casing

Right: Niall and Stuart Whitehall of IPP Ltd/MIS busily unloading their stand, in preparation for a very hectic day ahead.

Below: Johan Janssen, Saviour Gauci and Joseph Sammut of Chadwick Mushrooms in Malta, together with Pedros Petrides of Nepro-Pearl in Cyprus.



AREA CHAIRMEN PROFILES

Our leader this month proclaims area chairmen as the ordinary grower's only personal link with the MGA. Such an important role needs highlighting and on the following pages we print profiles they have contributed themselves. These reveal devoted, practical people with insight and acumen. They have our thanks and need our support.



Jack Orr of Chislet Mushrooms

flats for supermarket and local sales. This has enhanced the yield and the financial return but created a growing problem as 60% of the trays are for flats and 40% for buttons and cups. The distribution of sales is now 30% supermarket, 15% contracted to London Market, 40% local sales and 15% to wholesale market. The quantity to the wholesale market varies according to output which rather detracts from the benefits of higher production owing to the generally poor market returns.

Mushroom prices for the last few years have been static due to the general over-supply situation and it seems unlikely that any increase in prices will be seen in the near future. Materials and labour costs have continually risen. In order to maintain a reasonable profit margin, efficiency has had to increase bringing pressure on output and efficient use of labour. It is also important to maintain a high quality in order to satisfy existing customers; to lose even a small customer can have a dramatic effect on the profitability.

In my opinion public relations for mushrooms is essential if sales are to continue to expand. Increased demand is of benefit to all growers. The reduction of public relations by the MGA due to lack of funds could be disastrous. It is only hoped that we appreciate this and make every effort to fund the proposed new independent publicity group.

Supermarkets and other large buyers impose rigid standards of quality control and post-harvest handling which is setting a two tier quality system throughout the country. In their own interests we, the mushroom growers, might well be advised to initiate a universal quality system in order to identify standards to potential customers. The MGA has published a chart giving proposed grading and sizing. This could be a start, but the development of a quality control system has to be a co-ordinated operation. The first step could be quality grading, class 1, 2, 3, similar to the Dutch system, but customers would have to be geared to the system at the same time as the growers.

The market pressures are improving the efficiency of the mushroom industry in general and, providing we take advantage of the comprehensive facilities of the MGA and the rapidly advancing technology, the future could be promising.

FACT PANEL

Area Chairman: Mr Jack Orr,
Chislet Mushrooms, Chislet Park,
Chislet, Canterbury, Kent CT3 4BY.

South East I & II Region:
Sussex, Hampshire, Kent,
Middlesex, Surrey, Berkshire,
Buckinghamshire, Oxfordshire,
London and Hertfordshire.

When we first considered growing mushrooms, we had to find a market outlet and approached the only co-operative then operating in the country, Kentish Mushroom Farms Ltd. Bill Allen managed the operation at that time and he agreed to our joining providing we were members of the MGA.

Being a member of the MGA gave us a great insight into the growing skills and experience of other growers. Sadly, KMF no longer operates as a trading co-operative. On Bill Allen's retirement, we felt we could not afford to engage a manager. In retrospect I suspect that we, the members, could have had a considerably stronger trading position today if the co-operative had continued.

Chislet Mushrooms was started in 1971, the first crops being grown in 4ft x 4ft boxes in slightly insulated cow sheds! Expansion continued as and when money was available, until a ten-house unit with peak-heat room was complete. By this time, the cow sheds had been abandoned.

The output of approximately 7,000 lb/week was sufficient to supply a mixture of wholesalers, retailers and a few restaurants with buttons, cups and opens. Having watched the trend towards supermarket sales, it was decided in 1986 to look into increased production of quality mushrooms. We agreed to borrow money and expand, building a Dutch-type shelf unit.

In 1988 the new farm came into partial operation and by 1990 all the construction was complete and the full output of 15,000 lb a week realised. The tray farm has been partially dedicated to growing



Jack Orr in front of his store rooms.

Dennis Nutting

of Melkirt Ltd



I started growing mushrooms in the late 1950s using "fish trays" and making my own compost using a fork.

Our present farm was built in 1972; currently bulk peak heat phase I compost supplied by Agricultural Supply Co Ltd and spawning 2500 sq ft per week into trays using Le Lion XI strain spawn. Casing is made using Vapo peats but trials are in progress using ready-made casings. Valuable information gleaned from recent Casing Seminar being put to good use.

I crop three flushes and 90% of the mushrooms are sold to secondary wholesalers within a 30-mile radius of the farm. Mushrooms are pre-cooled and stored at 2°C using IMA high humidity cold room chilling systems.

My main objective, as a grower, is to produce a quality product – there is no satisfaction in growing second grade mushrooms. I find it very frustrating endeavouring to produce quality with quantity using the modern hybrid strains.

Obviously, an increase in the price of mushrooms is required. Our last price increase was in 1988, and unless a more economical system is adopted, or one devised, then eventually the farm will become unviable.

I believe a voluntary quality system

will be essential if we are to compete with quality product imports, but will it be implemented by growers, and what is the definition of quality?

We have always financially supported the public relations of the MGA and will continue to support the Mushroom Bureau as long as possible. And when asked if the MGA is valuable, my reply is that I would not have been a member for more than 30 years if I did not consider it of value. As regards Area Chairmen being members of the MGA Council, I personally, as one of the many small growers in the south west area, would find it difficult to devote the time, but would suggest a possible rota system so that, each year, one or two areas could be represented on the Council.

From the MAFF figures one can see that the multiple retailers are buying and selling more mushrooms, but at what expense to other outlets? Assuming population and consumption are about static, then every new supermarket opened must entice its custom from elsewhere.

Within the wholesale trade our customers have little knowledge of our problems. Should they be aware of them? From this side of the fence, buying and selling would seem a great deal easier than growing mushrooms! Very few wholesalers and retailers have coldrooms suitable for mushrooms – 2°C is far too low for other commodities. In some cases coldrooms are even non-existent!

Despite the efforts of the MGA to promote better handling of mushrooms, I was amazed to see mushrooms in one of the country's leading multiples, which had obviously been given 'Tender Loving Care' at the farm, being tipped out of their packaging into a pile for self selection.

FACT PANEL

Area Chairman: Dennis Nutting, Melkirt Ltd, Mushroom Farm, Tibberton, Gloucestershire GL19 3AG.

South West Region: Avon, Cornwall, Devon, Dorset, Gloucestershire, Somerset, South Wales, Wiltshire, Herefordshire and Worcestershire.

Damian Hea

of Capel Mushrooms



I grow in partnership with my father on a mobile shelf system. Our production is based on organic principles and is promoted especially for the organic market.

There has been considerable improvement and development on the farm over the past few years, to ensure that it is possible to meet organic standards economically.

Our farm is a member of the Springfield co-operative group, which has widened the customer base, and gained access to a packaging production unit, so adding to the integration and economy of the members in the group.

Qualifications for the role of area chairman seem, on the face of it, minimal. Mushroom grower, attends meetings, is vaguely known in the locality, smiles politely, not to say demurs when the Director addresses him/her. It was in this innocuous way that I was head hunted by Keith Willoughby, in God knows when, to take over the chair for the Eastern Region. In those days (that I should talk about days past in that tone!!), the chairman was simply a figurehead, a well-managed marionette. The offices of the MGA cocooned him, he largely rubber-stamped things and, as the song goes, 'the living was easy'.

These times have slowly been eroded

under Ken James's directorship and we now have to chase up speakers, seek venues, pursue new MGA members, read and disseminate MGA minutes and, most recently, compose articles for the Journal. I permit only current and past members of the executive committee to yawn at this stage. So, at our next area meeting (for which I am earnestly looking for: a) a subject, b) a speaker and c) a venue), I will be on the lookout for somebody who attends meetings, is vaguely known in the locality and has a demurring manner. Don't worry, Mr Woodcock, you are quite safe!!

What suggestions could I make to this new incumbent? Well, this is really my field – suggestions and delegation! Surprisingly, I would be stuck to come up with new, resourceful ideas, other than those plagiarised from the secretariat, the most recent of which is to get area chairmen to attend some of the general Council meetings. No doubt about it, the significant increase in the flow of information coming from headquarters is illuminating. This information needs to be presented to the membership, and the area meetings are an ideal arena for this to take place.

The most recent ideas which would benefit from area 'airings' are to do with the quality of our product and the marketing of it.

The argument goes, crudely, the quality on the market is unpredictable and so prices are dragged downwards. Standardise quality and by judicial control prices will firm up. Couple this with some sort of volume information system, so that markets can be more evenly supplied and, maybe, there is the framework for a workable system.

Time and time again I hear from my fixed-price markets how cheap mushrooms are in London. I am told that the multiples refer to the same in their efforts to drive down the price. The BMS group had some market information services running prior to recent hard times. I do not suppose it would be that difficult to resurrect such a scheme and broaden the base to involve all UK growers. It does seem amazing that as an industry we have such a scatty, unstructured approach to marketing, and yet, talk to any grower and marketing is his major headache.

A tailored man

We have, in our Director, the tailored man to assist us in setting up such a

scheme. His experience in marketing is second to none. In the clear and manifest absence of any other direction, my own instinct is to give him the field and offer him every encouragement.

We produce about 120 thousand tons of mushrooms per year in the UK. If we 'invested' 0.5p per lb we would have funds in excess of £1.25 million to juggle with. Don't think that this is just a 'big boy' problem either. The small and medium grower accounts for 90 thousand tons of that 120 thousand tons. Be vigilant, though – powerful vested interests have a habit of making things go quiet. The wide-mouth frog syndrome is a symptom of how many alligators you have in the pond, and as you purse your lips and breathe in, you may mutter, 'Don't find many of those around here, do you?'

Now on to a completely different tack – R&D. How nice it was to receive Ralph Noble from GCRI on the farm to poke, prod, swing his RH meter, check air flows, and take samples of peat. All this, plus a string of pertinent questions. I gather this delightful experience is being shared by several other growers and that some helpful conclusions may be forthcoming. This could spell the end of one of the most whispered observations of mushroom R&D: 'What, in the last few years, have I got out of all this activity?' The 'near market' is not so 'near market'. Not even as near as 'near near market' research. This is a wonderfully bamboozling categorisation that has successfully brainstormed your average grower into total silence.

At this point you will understand if I say no more, other than that optimism is restored.

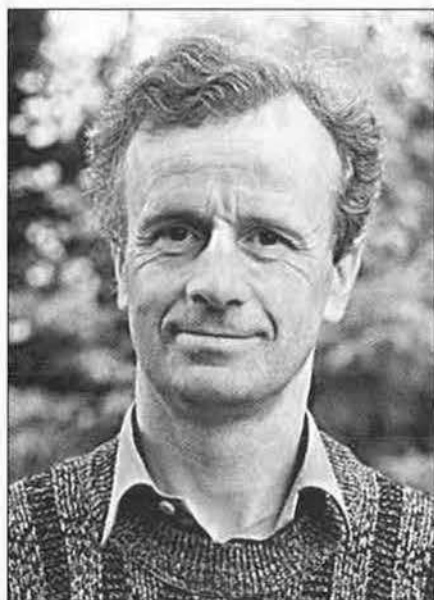
FACT PANEL

Area Chairman: Damian Hearne, Capel Mushrooms, Capel St Mary, Ipswich, Suffolk IP9 2LA

Eastern Region: Bedfordshire, Cambridgeshire, Hertfordshire, Norfolk, Suffolk and Essex.

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David Brammer,

Wood Farm, Bagnall

Father grew his first crop of mushrooms in late 1957. He was at that time trying to raise a family on a small, unprofitable dairy farm.

The crunch came when TT testing was made compulsory and he could not afford to bring all his buildings up to the required standard. He was seeking an intensive crop to utilise those buildings without costing a fortune in the process. Hence the mushrooms. 'Fools rush in where angels fear to tread.'

However, his first crop was successful, though grown with a total lack of mushroom knowledge, a condition that still persists on the farm! He joined the MGA that year and we have been members ever since.

The farm did a lot of creeping and going until the late 1960s when our present growing unit was built. Fish boxes gave way to standardised trays, which in turn made more mechanisation possible. All our tray machinery was built or modified by us and we now build all our own machines, such as they are.

In the early 1980s we increased production by some 50 per cent; we did this by increasing the weight and density of compost at spawning giving a dramatic improvement in quality for good measure. The principle of dense compost is one which we have developed steadily over the years.

Five years ago, due to a recurring virus problem, we bought a second site half-a-mile away from our existing farm. The idea was to do all pre-production work on the new site and move cased compost to the old site for cropping. As part of that development we built a bulk peak heat tunnel. The design and construction of the tunnel was quite satisfactory, but we have had erratic results, ranging from very poor to very good. The problems were caused by our relying too

much on instruments and not enough on the instincts we had developed over many years. Bulk peak heating can work very well, but can also cause grey hair and sleepless nights!

We are still only a small farm supplying a local market: 50 per cent of our production goes to local wholesalers, some of which are on a fixed price basis. However, direct sales to independent and franchised supermarket stall-holders, and the general public, are increasing steadily.

Nice - but...

I have heard many growers say that we need a price increase if the UK mushroom industry is to survive. In the short term that would be very nice, but price rises in the mid 1980s, brought about by an increased demand for mushrooms from publicity paid for by the UK mushroom industry, only fuelled a massive increase in imports. That increase was made possible through subsidies and grant aid in other EEC countries and is the major cause of our present problems.

When supply and demand match each other more closely, then perhaps price rises will come about which are sustainable, and the growers who manage to

stay in business will be able to plan ahead with more confidence.

Having said that, I fear it is going to be a long war of attrition that will be made longer and harder if subsidies of any kind are used by the EEC or national governments to support their mushroom industries. I do not see any chance of price increases in the foreseeable future. Survival will come down to low production costs. That is something we have been working on steadily for six or seven years.

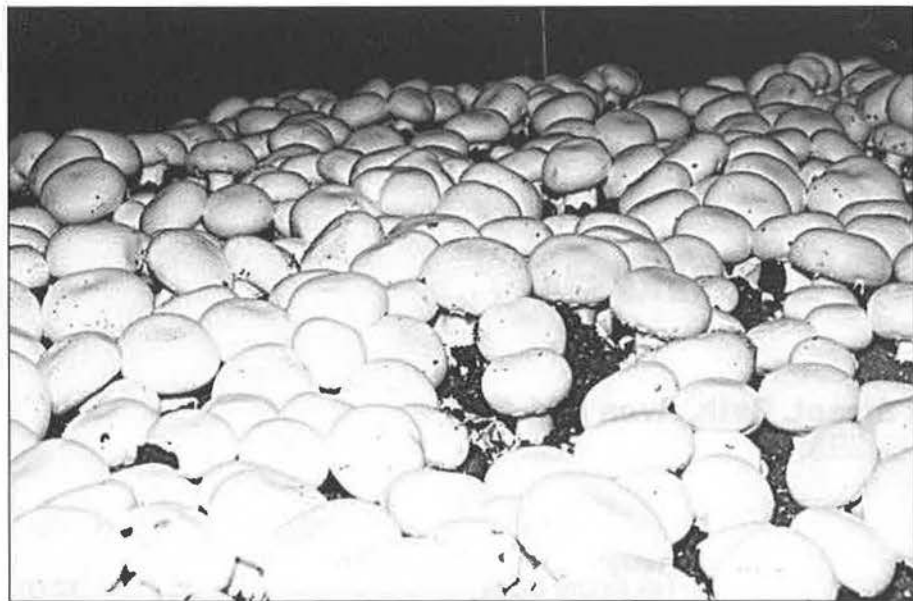
We had always been tray growers, but having seen one stack of broken-backed trays too many, we made up our minds to look for a different growing system. We looked at all the different systems currently in use but rejected them all, either because we would not be able to use them in our existing farm, or because the labour requirement was too high. What we were looking for could not be found, and so we started to do experimental work of our own.

We have ended up with a way of processing compost so that it can replace or enhance any of the growing systems currently in use.

The principle behind it is very simple. Peak-heated compost is fed by conveyor into the top of the machine and hydraulically extruded at the bottom to form a



Inside one of our growing rooms



A second flush

free-standing cellular structure which, when put together, forms a flat-topped bed some 12 inches deep. The cellular structure allows cooling air to pass through the bed and, thus, control what would otherwise be fatal overheating during spawn and case running. We have found compost temperatures very responsive to changes in air temperatures, far more so than ever it was in trays.

By palletising the compost processed in this way, an excellent replacement for bags is achieved. A growing room can be filled and emptied very quickly by an ordinary fork-lift or hand pallet truck and, by butting the pallets up to each other, long level beds can be formed. This then presents the opportunity to case and ruffle mechanically and, of course, at the end of the crop there are no dirty plastic bags to dispose of. All the labour required for the levelling and rolling down of the bags is done away with, to say nothing of all the bad backs that must result from it. We have grown in this way and know that it works very well.

We now use exactly the same idea, but instead of one layer on a pallet, we have three layers on a simple steel rack, as can be seen in the photograph. Growing is done as normal, but at 'cook-out' the cellular structure works in the opposite way, allowing hot air into the compost quickly and, because there is no insulating timber to force heat through, much less energy is required.

Emptying is easy

Emptying of the compost is a very easy matter. A simple attachment on the forks of a lift truck has made it possible for us to empty a house in around 20 minutes, instead of the two hours it used to take

for the same size house, on trays.

We have no experience of this method used in shelves, but we feel certain that from what we already do know a much bigger volume of compost could be put into the shelves and we think that, for the first time, compost and air temperatures could be controlled independently of each other. There are advantages during cropping in being able to manipulate temperatures in this way. More research is needed into that.

We feel sure that a picking line could be used when the growing is done as we do it, on the racks, but again we have no experience of that. We have found that the compost behaves in a very predictable, and controllable, way and, although not idiot-proof, is far more forgiving than our trays used to be.

Compost processed in this way can be used in the lowest technology unit right up to the super-high-tech farms. If our few years of experience are anything to go by, it would perform well in all of them. It is probably outside the scope of this article to give a full technical paper on the subject, but we have learned enough to justify one, perhaps in the not too distant future.

Summary

In summary then, the system increases the depth and density of compost per square foot, at the same time making it possible to control the temperature surges that occur at spawn and case run, and which are always far worse in deeper compost. The surges still take place, but are controlled much more easily. We use less cooling now than when we grew on trays.

If peak heat, plague, pestilence, pickers or the weather don't conspire to dictate otherwise, then yields from this

system are between 7lb and 8lb in four flushes. Of course, the mushrooms are dense and heavy. No timber or plastic is used and labour inputs are generally lower. We still have some development work to do on the mechanical side of the system, but there is less machinery than in a tray system and it is fairly simple.

The subjects of mushroom quality and publicity are totally linked together. Money is wasted if it is used to try to sell poor mushrooms. We all aim to produce clean, white mushrooms, but if any national quality standard were to be introduced then enforcement would be difficult due to the widely scattered farms in the UK.

General publicity was fine before so many imported mushrooms came into the UK. We now feel that publicity should be directed at point-of-sale so that a grower, or group of growers, have some control over whose mushrooms are being publicised and hopefully gain the benefit when that publicity is successful. That success will always be more likely if the product is of a consistent quality. The old saying 'good stuff sells itself' is still true, but a little push at the retail end of the job would help as well.

We will support point-of-sale efforts, and, of course, the role of the MGA would be vital to any such effort. The MGA is the only organisation that has an overall view of our industry, and beyond. It is also the only organisation capable of co-ordinating publicity material for use by every UK grower.

Our industry is under tremendous pressure. The returns no longer match the risks. It is easy to become despondent and resentful at the hours we have to work for the returns we often get. If an opportunity came along in some other field of activity many growers, including ourselves, would be interested. I hope it never comes to that, but I wonder how many of the present UK growers will still be growing mushrooms in five, or even ten, years time.

I have re-read the last paragraph – pass me the anti-depressant bottle, and I will go away!!

FACT PANEL

Area Chairman: David Brammer, Wood Farm, Bagnall, Stoke on Trent, Staffordshire.

East and West Midlands Region: Shropshire, Warwickshire, Lincolnshire, Staffordshire, Nottinghamshire, Derbyshire, Northamptonshire, South Yorkshire, Leicestershire and Humberside.

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Farm Walk	●		●	●
Trade Exhibition	●		●	●
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Lunch	●		●	●
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Please make your booking for additional activities on the Conference booking form. (If you have not received a booking form please contact the MGA – they will be happy to send you one).

Hotel bookings

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Rates: £80 per person per night in a single room
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IMPORTANT: delegates should book direct with the hotel by 13th September 1993 as rooms cannot be guaranteed after that date.

Car parking: There are very few parking spaces at or next to the hotel. Please check with the hotel when booking your room.

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Kennard Hotel (14 rooms), 11 Henrietta Street, Bath.
Tel: 0225-310472.

The Redcar Hotel (31 rooms), Henrietta Street, Bath.
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Tel: 0225-447779.

Laura Place Hotel (8 rooms), 3 Laura Place, Great Pulteney Street, Bath. Tel: 0225-463815.

The Georgian Guest House (9 rooms), 34 Henrietta Street, Bath. Tel: 0225-424103.

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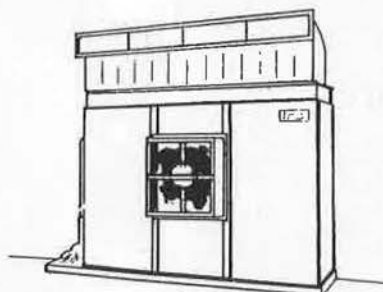
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Hongos Leben Mexico -



Mr Cruzgarcia regularly transports 120 kilos of fresh mushrooms to nearby eating houses, using two donkeys!! He has done this for 18 years now without causing environmental pollution

by Gerard Derks

At an altitude of almost 40,000 feet – the flight is smooth and the scheduled flying time is 11 hours – an ideal occasion to write a report on my 17th trip to my mushroom friends in Mexico.

The Leben family has made history in the Mexican mushroom industry – father José Leben left his home town, Trieste, in 1932 to settle down together with his wife Giuseppina in Mexico City. Initially he worked on a cattle farm but by reading papers and magazines he became attracted to the idea of trying to grow mushrooms.

By 1940 he had started his first experiments, growing on ridge-beds. He used

the French spawn “Quart De Lune” (some older growers will remember this trade name), a type of manure spawn that was very popular in France in those days and was brought into Mexico by ship.

I have no information about the levels of production but I am sure we can use our imagination. In any case José Leben carried on reading and studying until he discovered that in the USA some people grew mushrooms in trays. At this point he made a number of trays and convinced his wife Giuseppina to empty the living

room and one of the bedrooms. These two rooms became his first “conditioned” mushroom houses – this was in 1943.

The results were such that Mr Leben decided (in 1945) to build a small tray farm. This farm was called LA PATERA. Fifteen years later he built a much bigger tray farm called LA PASTORA. In the early 50s a small group of Mexican industrialists decided to start



Above: Mr Leben makes his own shelves out of concrete

Right: Mr Mike Leben in front of his “monument” with the first turner they built in 1970.



a Family Story



Above: Homemade compost-turners at Hongos Leben

Left: A view of the "Hongos Leben" mushroom plant in Mexico (In the foreground 10 new houses which have just been completed)



Mr Rodolfo Leben and Gerard Derks admiring a beautiful *Pleurotus* production.

up a mushroom farm and José Leben was invited to become a partner in this new company, making his technical experience available to the enterprise. (For a report on this farm see MGA Bulletin No. 62, Feb 1955 p.483.)

A couple of years later his son Rodolfo Leben (Mike to his friends) was appointed plant manager of the business, and worked there as plant manager for about 18 years. However, in the meantime, father and son Leben also ran their own plant - LA PASTORA.

Like many other growers in various parts of the world they took all the "ups

and downs" in mushroom growing, as you can imagine. Around 1974 Mike retired from his position as plant manager and started up a new plant called "Hongos Leben". Initially the houses were mainly equipped for growing in bags. Houses and pasteurisation tunnels were built locally. Mike made his own concrete shelving (see picture). He also built his own compost-turners, and he even installed a "weaving-loom" in his yard to make his own compost-turner nets! These nets are exceptionally strong and have a rich and undisturbed air passage.

Mike Leben was also the first grower in Mexico who started the cultivation of *Pleurotus* (oyster) mushrooms. He built special *Pleurotus* houses with natural daylight from above.

Today, Rodolfo Leben runs the business together with his father, Mike (the third Leben's mushroom generation). Production nowadays is 3500 kilos of *Agaricus* and 1200 kilos of *Pleurotus* daily. However, expansion is in the air!! At the moment 10 new houses (shelf system) are under construction and 18 more are planned for 1994. Prices for mushrooms in Mexico are at about US \$2.10 per kilo for *Agaricus* and US \$2 for *Pleurotus*. On the other hand, labour prices are very low compared to our standards. Wages vary from US \$5 to US \$10 per day.

Almost all the mushrooms produced in Mexico are sold fresh (and some canned) on the local markets.

Before ending this article, a few words about compost. The prevailing mixture is of wheat-straw, corn-stems, leaves, sugar cane - bagasse, with the traditional addition of chicken litter and gypsum.

The altitude (about 8000 ft) has always caused trouble in the process of fermentation, but with the adaptation of some of our new Italian fermentation techniques we trust that we can improve the quality of the compost significantly.

The Leben family has indeed made history in Mexico, and they have not finished yet!! They are full of energy and full of big plans for the future! We certainly wish them all success for the coming years!

This month sees the introduction of a new monthly feature entitled...

SID LOOKS BACK

Sid Cripps of Pond Chase Nurseries, with the help of Peter Flegg, has taken time to reflect on the past, and this, the first in the series, looks back as far as September 1954.

THE FRED. ATKINS ALPHABET: I-K

Imports. The French Growers sent us 252,500 lb. of mushrooms in 1953, compared with 270,000 lb. in 1952; but the weight of *canned* mushrooms was increased by 20 per cent. From Eire last year came 693,168 lb., compared with 543,648 lb. the previous year — all *fresh* mushrooms.

Indoor Composting. What is generally regarded as the Indoor Method of Composting — not to be confused with the Indore Method — is that described by Dr. E. B. Lambert in 1941. The basis of this method is a thorough mixing and wetting of the manure outside, followed by a controlled period of composting proper in the beds at a prolonged pasteurizing temperature.

Many of us think of imports of fresh mushrooms and indoor composting as relatively new developments. However in the MGA Bulletin No. 57 (September 1954) Fred Atkins found room for both headings in his alphabet.

If what we understand as indoor composting differs a little from Fred's definition, the massive 27.5% increase in imports between 1952 and 1954 must ring the odd bell!!



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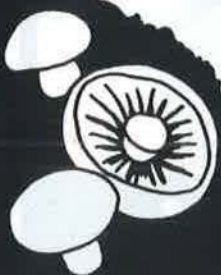
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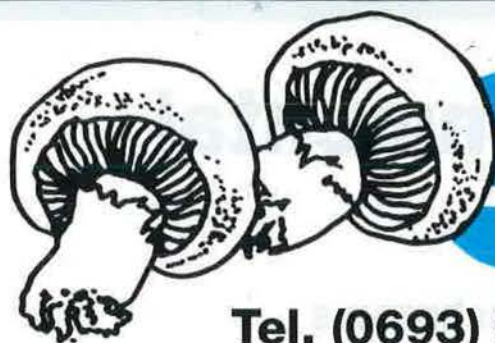
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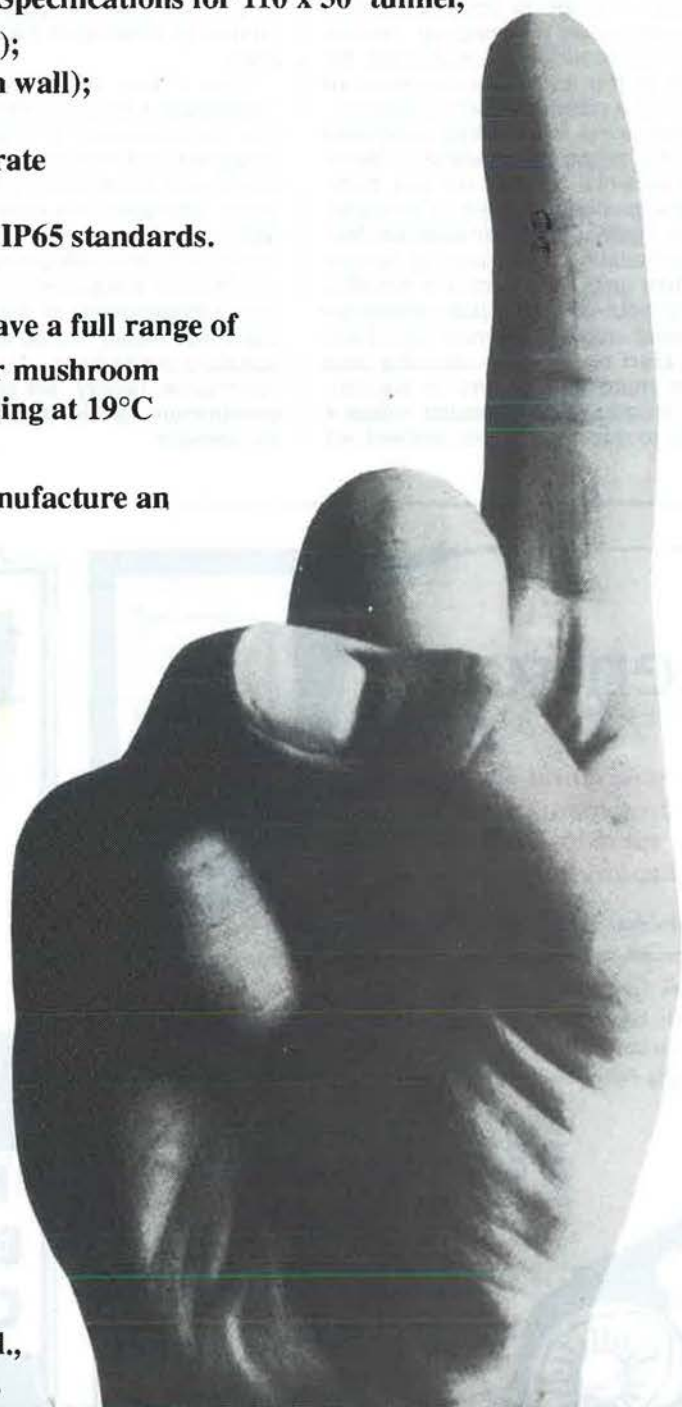
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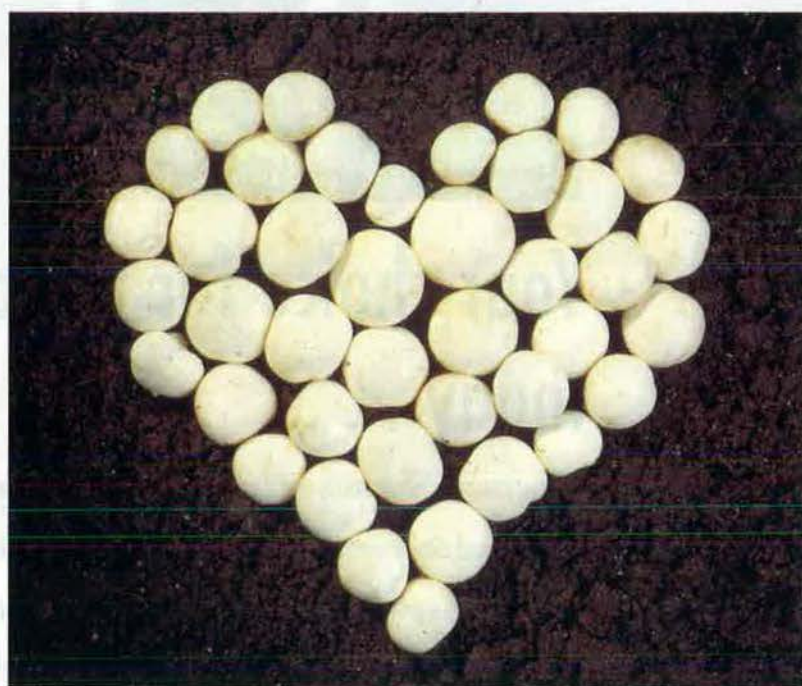
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