

PUBLISHED BY THE NATIONAL ASSOCIATION OF CIDER MAKERS

growersupdate

Autumn 2005

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Centenary
Orchard

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Ben Moss, Area Farms Manager at Bulmers

Ben Moss takes over from John Worle

Having worked in the Orchardring Department at Bulmers for the past nine years, Ben Moss has taken over the role of Area Farms Manager, a position left vacant following John Worle's recent retirement.

Tim Epps, Orchardring Manager at Bulmers, said that he was pleased to confirm Ben Moss's promotion and was sure that Ben would receive the full support of the staff on all the company's farms.



John Worle

John Worle to assist growers through the NACM

Following his retirement from the Bulmers Orchardring Department, John Worle has agreed to help Liz Copas with advice to cider apple growers.

John Thatcher, Chairman of the Pomology Committee of the NACM adds 'It is particularly pleasing that John will be available to pass on some of his enormous knowledge on cider apple growing to all of us within the cider industry and supporters of the NACM and we look forward to a close relationship with him'.

John will be available to growers on his mobile number only: 07766 706393

Orchards and Cider at the Bath and West Show

We were able to stage the best ever presentation thanks again to generous sponsorship from the Worshipful Company of Fruiterers joined this year by the NACM. Under one big marquee with the cider competitions and bar at one end, we had neighbouring assembly of orcharding exhibits and associated demonstrations. None of this could have succeeded without the stalwart support from SWECA 'volunteers', who manned the bar, and orcharding stewards from the Norton Cider Growers.

The bar and the competitions have developed into an prestigious advertisement for the cider industry, generating an increasing amount of interest every year. Tutoed cider tasting sessions gave an opportunity for the uninitiated to learn a little about cider, appreciate its characteristics and, armed with some newly acquired knowledge, choose from the impressive range of cider products at the bar. (Which incidentally took a record amount over the four days!)

Orchard-related exhibits included; machinery, harvesting and cider making equipment, pruning and grafting demonstrations, school projects and exhibits by NACM, NCGA and from our colleagues at East Malling. The aim being to enlighten and educate the general public of the processes in the production of cider; and care taken. A drink worthy of an environmentally sound reputation.

2005, being the Year of the Sea, presented a unique opportunity to recall the occasion when the Navy's submarine HMS Sceptre was launched with a bottle of Taunton's Pommia. There was an exchange of symbols (some of them bottled) between two Petty Officers currently serving on the ship and Hugh Archibald, director of Constellation Europe together with Miles Roberts, Managing Director of Taunton Cider at the time of the launch in 1977.

Results of the Competitions

The cider competitions were again highly successful and well supported by 200 plus entries and the Thatcher's Innovation Award attracted the highest number of entries since its inception.

Open Cider and Perry Classes

Judged by Hugh Fearnley-Whittingstall, Peter Bartlett, Master of the Worshipful Company of Fruiterers, and Nick Bradstock, then President of AICV.

The Fruiterers' Cup for Supreme Champion Cider:

John Perry, Perry's Cider.

Arthur Davies Cup for bottled cider as presented to the retail trade: **Chris Coles, Green Valley Cider.**

Farmhouse Cider Classes

Judged by Henry Chevallier Guild, Aspoll Cider, and Julian Temperley, Somerset Cider Brandy Company.

The Pewterers' Cup for Champion Farmhouse Cider: **Simon Tremlett.**

Best Apple Juice: **Nigel Stewart, Bridge Farm Cider.**

Thatcher's Innovation Award

Winner: **Somerset's Surplus Apples**, harvesting, processing and marketing: An economical and practical analysis entered by **Keith Goverd.**

Runner Up: **Somerset Apple Project**, entered by James Crowden coordinated by Levels and Moors Partnership, Moorlynch, from schools around Somerset.

Equal 3rd: Stewley orchard from **Gaymers Cider Company** and a tractor mounted apple harvester entered by **John Mitchell, Merriott.**

Are your apples and pears prize-winners?

Numbers of fruit entries in The Tenbury Wells Autumn Produce Show increase each year, and the organisers are confident that 2005 will be no exception.

With a huge crop of high quality fruit growing in the Marches this year, your cider apples and perry pears could make this show ever more prestigious in the fruit growing world and the task of choosing winners in each section similarly difficult for the judges.

It only takes a few minutes to pick a suitable sample (collection can be arranged from your farm).

Bulmers sponsors these classes and a cup is presented for the best overall cider apple or perry pear entry.

This year's show, to be held at The Bridge Hotel, Tenbury Wells is on Friday 28th October.

For further details contact Dave Morris on 07792 559610.

Machinery Day at Kinnersley

Sponsored by Bulmers and the NACM, the theme for the day was 'Towards Cleaner Fruit'.

On the 14th July, bright sunshine and the offer of cool refreshment encouraged more than 200 growers, from as far away as Devon, to attend an exhibition of machinery and speak to orchard contractors.

The event was jointly sponsored by Bulmers and the NACM, with the theme for the day being 'Towards Cleaner Fruit'. Growers have always needed to ensure that apples arriving at the factory comply with the standards of quality stipulated in their contracts of supply. Improved harvester design and a range of cleaning and washing systems are available to suit all sizes of operation, making it possible for everyone to deliver an excellent machine-picked fruit sample.

Among the 26 exhibitors there were stands displaying new and second-hand harvesters, orchard tractors, shakers and mowers. Apple handling systems, ranging from dump boxes with coils, through tables with slatted conveyors, to water tank immersion machinery, were all there to be discussed with manufacturers and their agents.

Growers' Advisory Manager at Bulmers, Chris Fairs, who helped to organise the event, was delighted with both the interest shown by growers and exhibitors and the attendance figures at such a busy time of year. He added that the increasing awareness by apple suppliers of the importance of clean fruit to the cider maker had seen several growers designing and building their own harvesters and cleaning systems on the farm. Some had even diversified into small scale machinery manufacturers and were also offering shaker, harvester and cleaner hire in their area. For others there was the assurance that with the purchase of new machinery, the market for good secondhand equipment was buoyant.

Several visitors commented that owing to the specialised nature of the event, there were more tractors on display than at some large county shows and it was evident that business was being done and orders placed in time for the coming harvest.

Further machinery days, each with a relevant theme, are being planned for the future.



Paul from Hereford Mowers demonstrates an extending lopper to Richard Trace



Growers at the Griff Chains stand



The Long Ashton Centenary Orchard

The impressive list of commemorative trees includes the recently named LARS cider seedlings.

In 1996 Prof. J P Hudson unveiled a plaque on the walls of the LARS library beside a newly planted group of trees kindly donated by the NACM. This small cider orchard commemorated over 80 years of cider research from 1903 - 1985 and acknowledged the outstanding contribution of the late Dr Fred Beech, the last head of the Food and Beverages division.

Following the closure of Long Ashton in 2003, Bristol University put plans in place to move the Commemorative orchard and other Memorial trees on the site to a permanent home at Goldney Hall in Bristol. Together with these is a collection of single specimens of all the fruit and willow cultivars bred and named at the Research Station over the last 100 years.

A new commemorative plaque, in the shape of a row of concrete 'books' resurrected from the closed library, was unveiled by Sir John Berringer, Pro-Vice Chancellor of Bristol University on the 13th April this year. Some may recognise the faces of John Worle, Dr Iain Campbell, former Head of Pomology Division and Bob Hughes, LARS Glasshouse Supervisor whose dedication and persuasive powers helped to bring the project to fruition. Professor Peter Shewry, the last Director at Long Ashton, who had the sad task of overseeing its closure, was given the honour of planting one of the trees.

The impressive list of commemorative trees includes the recently named LARS cider seedlings together with Ashton Brown Jersey and Ashton Bitter. Less well known are the dessert and culinary apples bred mostly in the 1930s and 40s. Names such as Cheddar Cross, a good quality, flavoursome early; scab-resistant Taunton Cross; Worcester Cross and Exeter Cross, a good August maturing cultivar that was the last apple to be named in 1953.

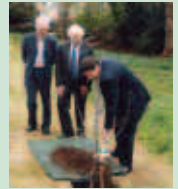
Pear breeding at Long Ashton was on a much smaller scale and the only two named cultivars are represented here; the September ripening Cheltenham Cross and Bristol Cross which received a RHS Award of Merit in 1951, a Williams x Conference cross that was considered to be better than either of its parents.

Plums bred in 1950s are Thames Cross, Avon Cross, Teme Cross and best of all, Severn Cross, a large golden dessert plum that was widely planted commercially. The new breeding that was started in the 1970s resulted in two very successful large red plums, Avalon and Excalibur.

The planting plans for next year at Goldney include the well known strawberries Providence and Pegasus together with a set of blackcurrants bred after the last war for their high vitamin C content, the best known being Tor Cross and Blackdown.

Although an enormous amount of work was done at Long Ashton on willow breeding, sadly the recent upsurge of interest in biomass has come too late to promote the efforts of Ken Stott and Rod Parfit. Happily though, a set of Long Ashton willows for basket and biomass are being propagated to join the fruit trees; Hutchinson Yellow Bark, Hutchinson Brown Bark, Ashton Stott, Ashton Parfit, Quest, Beagle Endeavour, Discovery, Nimrod, Terra Nova, Resolution and Endurance. Hopefully some will become invaluable alternative fuel sources for the future.

Many thanks are due to Brogdale for supplying a lot of the scion material, Bulmers Cider and Frank Matthews, who kindly raised and supplied the trees free of charge. Special thanks also to the Warden of Goldney Hall who provided a fitting home for the collection.



Post harvest operations

If you make the opportunity to have a last spray round, you will have a choice between urea and copper. Both can be extremely effective but selection needs some care since their application can be counter productive.

If canker is a persistent problem in your orchard, copper oxychloride (Cuprolyt) is the best choice. Canker is a difficult disease to control because the fungus produces spores all the year round and entry points on the tree are ever present. But probably the most vulnerable to attack are the scars left as leaves fall in the autumn. Nectria canker is particularly fond of wet autumns. Spores are readily spread in windy, rainy weather and fresh leaf scars are plentiful. Copper fungicide applied twice, at 10% and 50% leaf fall, will protect against infection. In severe cases, this can be followed up with a pre-bud burst copper spray in spring .

If scab is your worst adversary, then copper sprays may not be advisable. The fungus over-winters mainly in the scab spots on infected leaves on the orchard floor. Good scab husbandry advocates the quick rotting of scabbed leaves to reduce the numbers of infective ascospores that will be released in the spring once the weather warms up. Unfortunately copper tends to toughen leaves, delay their rotting, so increasing the chances of scab spores over-wintering. A better choice for a post-harvest spray for scab-prone varieties is urea, applied at 5%, just before leaf fall. Urea prevents the scab spores going through their winter sexual stage that ultimately produces the spring-released ascospores. It also helps the fallen leaves to rot down and become more palatable to earthworms. This process can be speeded further by

chopping up the fallen leaves with a late mowing round. The mower will also crush any rotten fruit that may have been left behind after harvesting, thus reducing brown rot carryover. Urea, is also a fertilizer and this late season application will give a small nitrate boost to next spring's buds.

Preventing wet feet problems

Pessimistic global warming predictions suggest that we are more likely to encounter extreme weather conditions and recent experiences around the globe confirm this. The widespread loss of young trees in the excessively wet winter of 2000 is unlikely to happen again, since most orchards have now passed the age of maximum sensitivity to root death. By now, young trees in most orchards will have a sufficiently well developed and strongly supportive root system, having exploited a good depth of soil. However, excessively wet ground conditions can still take their toll. Autumn gales were a major contributor to root death in 2000, causing trees to be blown over. Wind rock created perfect conditions for pockets of water to collect around the bottom of the trunk, rotting the crown and the disturbed and broken roots. Most of the badly affected trees never recovered sufficiently and had to be replaced. Most deaths occurred in Dabinett, Major and Ashton Bitter: varieties that probably suffer from slow root development.

After harvesting is a perfect time to check round the orchards, making sure that stakes and ties are doing their job before any damage is done. It is also a good time to check that drains and ditches are clear and able to flow when the wet weather comes.



Calcium – the forgotten nutrient

Leaf analysis this year has shown that most orchards are short of calcium, **Nigel Kitney** explains why calcium is so important.



Nigel Kitney, Tree Fruit Specialist, Hutchinsons

Calcium tends to be a nutrient that is neglected. How many cider growers even think of it? The nearest most of us get is to check the pH of the soil every three to four years. Provided the pH is 6.0-6.5, we assume everything is all right. However, the soil pH is optimised at 6.0-6.5 to maximise the availability of nutrients in general - not to optimise calcium uptake. So what is calcium needed for and what are the apple tree's requirements?

It is generally accepted that calcium is crucial in maintaining strong cell walls (usually in association with boron and zinc). One analogy would be that the cell walls are like bricks held together by mortar of calcium and boron (sand and cement). If the plant is short of calcium, the cell walls are weaker and don't bind together so well. This can leave the plant more exposed to attack by pest and disease. In apples, a second effect of a lack of calcium is the development of 'bitter pit'. This occurs as the apples increase in maturity and shows as dark sunken marks on the skin which penetrate the flesh below. A second impact that can happen is that apples short of calcium tend to soften faster. This affects the cider maker, as with a firm apple the cells split open when crushed, whereas, with a soft apple, the cells tend to slip apart like sand and the yield of juice is reduced. In studies of dessert apples, those with the highest levels of calcium have least bitter pit, are firmest, and keep for longer without rotting.

What are the requirements in the orchard? The largest loss of calcium from the soil is by leaching and this is directly related to rainfall but also fertiliser use. For every 50kg of Nitram applied to the soil, 25 kg of calcium will be lost. It is generally considered that leaf levels of 1.1% of the dry matter, and fruit levels of 4 mg/100gm fresh weight are the minimum needed for healthy fruit and apples.

Factors affecting crop uptake: Calcium is taken up by the roots and transported in the xylem (i.e. the part that takes water up). If water uptake is inhibited, then calcium uptake is reduced. In general, balanced trees have the best levels of calcium - rapid growth draws the calcium to the young shoots. Large apples are unable to take enough calcium through their stalks. This means that calcium levels in young trees with light crops tend to be poorest. However, leaf analysis this year has shown that most

orchards are short of calcium (and many other nutrients) and I think that has been caused by poor root activity this spring.

What can be done about it? Obviously lime your soil - if needed. Two years ago, one of my customers had a problem of bitter pit and rotting in Broxwood Foxwhelp, so the following season he applied a programme of calcium nitrate. This reduced his problem considerably and he has increased the area treated this year and persuaded his neighbour, for whom he harvests, to do the same. I was also approached by another customer this year who wanted to reduce the bitter pit in his Katy (very prone when the trees are young) so he too has applied a calcium programme. Following the widespread leaf analysis results, many more growers have followed suit. Calcium nitrate is 20% calcium, 15% nitrogen and is easy to dissolve in the sprayer. We are applying 10 kg/ha at least four times. In bright weather there can be some scorch on the leaf of branches near to the tractor so we don't advise spraying above 20°C.

This autumn we shall be looking carefully at the results of the treated and untreated areas to try to quantify just how successful this programme has been. However, there is a slight note of caution in the interpretation of the results; in dessert trials, applications in one year have improved the levels in the fruit the next!

Nigel Kitney

Tree Fruit Specialist
Hutchinsons

Tenbury Applefest

Saturday 22nd October
2005

Tenbury Wells, well described as 'The orchard in the town', is having its first apple festival - an 'Applefest' - to promote apples, orchards, and the town's historic and continuing close association with them.

There will be something for all the family: local food and drink, competitions for children, visits to a local cider maker, a farmers' market, photographic displays, apple identification, and much more. As well as local people, it is also hoped that visitors from The Black Country will be attracted to the Applefest. In past years, many families from that area would come to work in and around Tenbury for the harvest period.

Do come and support the festival - admission is free!

The weather and your P&D in 2005

Scab development

The first 2 weeks of March saw conditions suited to heavy ascospore release in Hereford. This started a little later in Somerset. Cooler weather returned but by mid April and into early May there were some periods of intense spore release. Any orchards with gaps in their protective spray programmes during these periods would have been vulnerable to infection and the start of scab in susceptible varieties. For the first part of May the weather was often too cold for scab conditions but things began to build up towards the second half of the month with severe risk in Hereford from 23-25th. Early June favoured several moderate to severe risk periods in Somerset, especially during the first wet days of the Bath & West Show! 23mm fell (much of it in the Orchards and Cider tent!) on the afternoon of the Duke of Kent made the Gold Medal presentation. Hereford escaped most of this. By mid-June temperatures were soaring in both counties. Hereford was dry and escaped scab risk except on a very wet day, 24th June, when 24.9 mm fell. This period created typical fire blight conditions but nothing was reported. The end of June and first days of July saw severe scab conditions in both counties but these evaporated quickly as warm, dry weather kept the disease at bay. The last few days of July were, again wet.

Critical periods

This season demonstrated the risk of missing early sprays. Several growers found weather conditions difficult with many wet days and windy periods when spraying was out of the question. Gaps in the pre-blossom protection were enough to let the scab infection in. Where scab lesions took hold in susceptible varieties and corrective spray action was not taken, infection spread quickly during May and June.

Present thinking, led by East Malling, advocates very early protection to susceptible varieties, with pre-budburst copper sprays (Cuprolyt or Wetcol) giving the best results.

Mildew

Mildew, favouring warm dry weather, started low in June but flared in both counties by mid-month. The second week of July saw ideal mildew conditions down in Somerset, unusually, more than in Hereford.

Month	Rainfall (mm/month)		Average temperature (°C)	
	Hereford	Somerset	Hereford	Somerset
Jan	39.8	42.6	6.8	7.1
Feb	36.0	36.8	4.6	5.1
Mar	80.6	46.4	7.2	7.5
Apr	52.5	70.8	8.8	9.3
May	38.8	62.7	11.3	11.8
Jun	50.7	124.6	15.8	16.6
Jul	53.1	53.7	16.7	17.2
Aug	0.8	58.5	15.9	16.1
Total	352.3	496.1		

Codling moths

As ever, pheromone codling traps always catch very high numbers of moths in our cider orchards. This year's record catch was 195 moths in a mixed orchard in one week alone! The total caught in 3 traps in 2 weeks was 750 moths. The threshold for spraying in dessert orchards is 5/week. What is a greater concern than the actual numbers of insects, is the damage that they can do. The holes that the moth larvae make as they enter and leave the fruits are ideal entry points for spores of brown rot fungus.

Codling	Hereford	Somerset
1st Flight	19th May	13th May
Peak Flight	6th June	2nd June
2nd Flight	4th Sept	31st Aug
2nd Peak	5th Oct	2nd Oct

Regalis

A new tool for the apple grower



A new growth regulator for apples received approval this spring. Regalis is an anti-gibberellin and gibberellins encourage cell division and extension growth. Ethylene encourages ripening and fruit drop. So, in theory, application of Regalis should reduce growth, ripening, and fruit drop. So does it work? Hutchinsons have been trialling Regalis for three seasons now and the short answer is, yes!

Applications during the growing season will reduce extension growth dramatically. If applied between flower and petal fall, it can 'stick' fruit on the trees by reducing ethylene production, which causes fruitlet drop.

It cannot be used near to harvest (55 day harvest interval).

In dessert trials, application to control extension wood has reduced pruning bills by 45%, increased yield by 11%, and given better calcium, colour, and general quality. Application at flowering has, in some years, been spectacular (up to 300% response in a poor setting year).

How has it worked on cider this year? It has been tried on most of the main varieties and has worked on all of them. In particular, results have been good with Major, Ellis and Browns Apple. Leaf quality has been improved, growth controlled, and most people report an increase in crop. Reduction in pruning costs will gradually increase, as the benefit will be cumulative.

It certainly appears that we now have a very powerful tool available to us - but it will not be needed in every orchard, every year.

Nigel Kitney
Tree Fruit Specialist
Hutchinsons

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Cider Apple Growing in 20th Century

The notes from the NACM conference are now available. These are free to delegates. £7.50 for non-delegates (cheques payable to NACM) can be ordered from Chris Fairs, Liz Copas or Bob Chaplin.



Growers Update is published by the National Association of Cider Makers.
Research consultant: Liz Copas 01460 77058. Information Officer: Fenella Tyler, Bulmers, The Cider Mills, Plough Lane, Hereford HR4 0LE.
Telephone 01432 294097. The NACM cannot accept responsibility for loss or damage resulting from any information published neither can it accept any responsibility for the reliability or quality of the services provided by advertisers.

Reaching the leaders

Pruning an orchard's upper canopy

is the task many growers avoid when trees have grown beyond easy reach from the ground. It is easy to understand why: the work is both time-consuming and costly.

However, delaying or neglecting this vital work could cost the grower much needed revenue. Such unpruned trees will never reach their full cropping potential but will grow into an inverted A-shape (causing the shading of lower branches and reduced tree life). Particularly in the case of Dabinett, such trees will have poor, weak leaders that never reach full height.

There are many methods employed in leader and upper canopy pruning. In young trees, simply standing on an upturned crate and employing secateurs may be found the quickest way. In taller trees, the use of telescopic loppers, extending manual or motorised pole saws may be deemed more effective. Tripod ladders are practical on smaller acreages and afford accuracy of cutting, particularly on level sites. The most costly, in terms of capital expenditure, is the hydraulic pruning platform, which facilitates accurate, high leader pruning of a double tree row, with a single operator. This is an item that two or more growers could consider for shared purchase.

For those who employ a pruning contractor, Robert Collins has designed and built a simple, but efficient, towed pruning platform. Mounted on a twin-

axle trailer, it is stable and permits simultaneous two-row pruning. If required, the trailer can accommodate the towing tractor; all being delivered to the site behind a 4WD vehicle (see photograph).

Robert operates a planting, pruning and harvesting contracting service for growers. Contact: Robert Collins 01905 611773 (h), or 07968 266568 (m).

