

Two Crops from One Acre

A comprehensive guide to using Shropshire sheep for grazing tree plantations



**Shropshire Sheep Breeders'
Association**

www.shropshire-sheep.co.uk

Acknowledgements

The Shropshire Sheep Breeders' Association & Flock Book Society (the SSBA) would like to thank the following for their contributions to this publication:

Roger Hay for providing the Foreword.

Graham Allan, Michel Heyberger, Raimund Kohl and Adrian Morgan for supplying details of their sheep management systems.

The Lake Constance Research Centre for Fruit Growing, Bavendorf, Germany for permission to publish the results of trials using Shropshire sheep in orchards, and Raimund Kohl for translating this material.

SSBA members Pippa Geddes, Clive Taylor, Sue Shimwell and Liz Bowles for producing this booklet.

Front and back cover photos

Front Cover Main Photo: Shropshire sheep from the Snowbird Flock of Adrian Morgan grazing between conifers in Lincolnshire. (Photo: Adrian Morgan)

Inset Photo: Shropshire sheep in semi-dwarf apple orchards at the Research Centre For Fruit Growing, Lake Constance, Bavendorf, Germany. (Photo: Raimund Kohl)

Back Cover: A Shropshire sheep amongst conifers, Eisenschmidt, Germany. (Photo: Uwe Rutzen)

Disclaimer

The purpose of this booklet is to give details and examples of the use of Shropshire sheep in grazing tree plantations and vineyards and whilst every effort has been made to ensure the accuracy of content, the booklet's contributors and the Shropshire Sheep Breeders' Association cannot accept responsibility for any errors, omissions or actions resulting from this booklet. By making a purchase or use of this booklet, it is taken that this disclaimer has been read and accepted.

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Foreword

By Roger Hay CBE

The Secretary of the British Christmas Tree Growers' Association

The wish by our customers to have fewer and fewer chemicals involved in the production of Christmas trees has resulted in the examination of alternative methods of controlling weeds.

In recent years, the work done by the Shropshire Sheep Breeders' Association and Graham Allan in particular, has been of great interest to Christmas tree growers. We now have a significant number of growers who find that using sheep to control ground weeds and grass is beneficial to their crop and their wider farm ecology.

The success of Shropshire sheep in grazing within a conifer plantation is a useful way in which growers of Christmas Trees can create an environmentally-friendly method of management. A flock also provides additional reasons for families to visit farms to purchase trees.

The British Christmas Tree Growers' Association encourages the use of Shropshire Sheep within the plantations and farms of its members.

Membership of the BCTGA is open to those who grow Christmas trees in Great Britain and Northern Ireland. Associate membership is available to those who do not grow trees but who wish to be involved in the Association for trade, business or professional reasons. Subscription rates are related to the number of trees sold. For more details contact the Secretary (see Useful Contacts section).



◆ The use of Shropshire sheep in Christmas tree plantations

By Graham Allan

Graham Allan is a Scottish shepherd who has lived and worked for many years in Denmark, where he acquired invaluable experience in managing sheep in conifer plantations. Graham has exported this concept to Great Britain, Germany and France, where it is now continuing to develop.

In Denmark, the production of conifers for Christmas trees and Christmas decorations has developed into an important industry. In the past, this production has been dependent on the use of large quantities of herbicides. A lot of restrictions in the use of herbicides have been introduced in recent years and, at the same time, producers have become more conscious of the environment. Denmark has, therefore, become a pioneer in the development of alternative methods of weed control. One of the most important of these is the use of sheep for grazing.

The trees must be kept free from weeds and grasses during the first seven to eight years of life, because weeds will reduce the growth rate and quality of the growing trees:

- They compete with trees for light, water and nutrients, especially on sandy soils;
- When the wind is blowing, coarse vegetation can cause physical damage, especially to the new buds;
- The lowest circle of growth can die out because of the lack of light;
- During the harvest period in late autumn, the trees can be polluted with seed hairs from, for example, Rosebay Willow Herb;
- Plant cover on the ground surface will insulate heat radiation from the ground and increase the risk of frost damage;
- Weeds cause difficulties at harvest;
- Weeds protect small rodents against their natural enemies. Rodents eat bark, which has a high sugar content when the ground is covered in snow.



Weed control techniques

With herbage control so important in plantations, practical foresters have tried a number of different techniques:

- Mechanical cutting of the vegetation, which is labour intensive and risks damaging the small trees;
- Cultivation of the ground between the trees, which is also labour intensive and with a risk of damaging the trees;
- Herbicides, which are now strictly controlled in the UK, Denmark and many other countries.

Even when using "safe" herbicides, a balance must be found between maximum effect on weeds and minimal damage to the small trees.

In recent years, there has been increasing interest in finding alternative methods of herbage control and one of the most innovative and successful has been the use of sheep. This is the most difficult to manage, but is at the same time the most environmentally-friendly. Furthermore, it allows the producer the opportunity to gain two crops from one plantation - a useful additional income.

The whole point of grazing sheep amongst Christmas trees is that they can be trusted not to nibble the trees. On this point there is no room for compromise. Through careful breeding and good management, we can develop routines and precautions that can lead to better results than are currently being achieved.

There is more to grazing sheep amongst conifers than simply turning them into the plantation. The process needs careful planning and management. To keep sheep successfully in plantations it is important to know a great deal about sheep behaviour, possibly more than the average sheep-breeder, if one wishes to avoid problems. The average forester is rarely an expert in sheep husbandry, and the shepherd is rarely an expert in forestry. It is extremely important that all involved take time to go on relevant courses, read available literature on the subject and learn from others' experience. There is no doubt that most successful projects of this kind involve team-work between shepherd and forester.



Shropshires proved the best breed

The most suitable sheep for use in conifer plantations are the improved meat breeds. The first experiments in Denmark were carried out with Leicester sheep and later Shropshires, Dorsets, Suffolks and Oxford Downs were used.

In practice, Shropshire sheep have proved consistently the most reliable breed for grazing weeds in conifer plantations. However, even when you have acquired a flock of Shropshires there is more to the job than just putting them in the trees and leaving the rest to them.

The size of the sheep does not mean a great deal, though the bigger Shropshires - the British strains, rather than the smaller Danish - usually have better mobility and better behaviour. This can be seen in crosses between English and Danish strains that are now used in Denmark. There has been some discussion as to whether the Shropshire should have a woolly face or not. The original Shropshires in Denmark had woolly faces and were the pioneer Christmas tree sheep. Gradually experience has showed that the sheep bred with more open-faces function better. The open-faced sheep are not so nervous, more mobile and easier to manage in the trees.

The importance of breeding

Careful breeding is important, with the objective of producing a flock of sheep that do not eat trees. When using sheep in plantations it is not just enough to breed good lambs for the butcher; their behaviour in the plantation is just as important.

When choosing suitable Shropshires for grazing conifer plantations remember that:

- The quality of a Christmas tree sheep lies in its ability to keep away from the trees;
- Even the best breeding stock do not come with a guarantee that they will not nibble the trees;
- A good Christmas tree sheep can be ruined by a producer who has not taken the time to familiarise him or herself with the management techniques involved.



Introducing sheep to the plantation

In my experience, it is not wise to introduce sheep into a newly established plantation. Doing this too early will still allow the weeds to develop sufficiently to become a threat to the newly established trees, so I recommend use of mechanical or chemical control for the first two seasons.

The sheep are introduced into the plantation in the spring, when there is sufficient grazing, but the shepherd must be prepared to remove them at any time if the trees are at risk. There is a high-risk period at about the end of May, when new shoots appear, and again in October and November, towards the end of the growing season, when the vegetation is poor. New shoots can easily be broken, but the risk is not so great if the flock is old and well established.

Remember that there are no hard and fast rules for how early in the year sheep can be put out in the trees. This depends on the weather conditions and the amount of vegetative growth. Shropshire ewes can lamb in January and February so it is possible to wean the lambs in preparation for turning the ewes out into the trees in the spring.

It is important to be very painstaking when choosing sheep to use and when to use them. Several years ago, it was proved that ewes with young lambs at foot are not suitable for use together in the plantation. As a rule there are insufficient food sources to enable the ewes to produce enough milk for their lambs to achieve optimal weight-gain.

It is an advantage to introduce only a few identifiable animals at first, and watch their behaviour carefully. Any problem sheep must be removed immediately. It is important to avoid stressing the animals by moving them about too much, because stress can result in the sheep nibbling the trees. Experience shows that particular bloodlines are more susceptible to stress, and that others have a tendency to nibble trees.

Although castrated rams can be used in the plantation at certain times of year, they are not recommended over a longer period because their behaviour changes after a few months. Castrated rams should be used only when there is plenty of vegetation (short, succulent grass and weeds). Ewes without lambs can be safely used to graze the vegetation right down to the ground, but castrated rams cannot be trusted to leave the trees alone when herbage is becoming scarce.



Sheep should never be allowed to nibble the trees, as this can progress to more serious damage. Do not tolerate nibbling, even if the sheep concerned are excellent animals in every other respect. The best sheep to use are those that, when grass is scarce, would prefer to eat thistles before starting to nibble the trees.

The number of sheep per hectare depends on the soil type and existing weed vegetation.

Management techniques

There are several methods that can be used for weed control in Christmas tree plantations; these are under constant development. Each method has advantages and disadvantages. Examples of some of the methods in use at the present time are:

- Permanent grazing with a small flock in the same plantation throughout the summer;
- Rotation of a larger flock with short periods of intensive grazing in several plantations.
- Traditional combined methods (spraying and other mechanical methods).
- A combination of sheep and mechanical methods.
- A combination of sheep and use of herbicides.
- Use of a flock without lambs.
- Renting or leasing of the grazing rights.
- Renting sheep for grazing in the plantation.

The advantage of permanent grazing is that the animals get to know the plantation and the vegetation it has to offer. However, it can be difficult for a small flock to keep the vegetation under control, and detailed observation of plantations takes a long time.

The preferred method is rotation. Four or five times as many sheep are used in this system than in permanent grazing, and the vegetation is eaten right down before the flock is moved on to another plantation. Under this system it is easier to adjust the amount of grazing in relation to the time of year and the variation in vegetation growth, and from the sheep's point of view, the



vegetation is fresher and more nutritious. I must emphasise that this method should be used wherever possible as it gives the best results for both the growth of the trees and the welfare of the sheep.

The disadvantage of this system, however, is that the larger flock of sheep poses greater risk if things should go wrong, and it can be more difficult for the shepherd to identify a single "black sheep" - one which has taken to nibbling young growth on the trees.

These methods work best if only ewes are used. As Shropshire sheep can lamb early in the year, only ewes need be used in plantations. Later in the year, ewe-lambs can be used in conjunction with their mothers. Do not use ram lambs in the trees.

With regard to the other methods named, a lot can depend on the size of the plantation. For example, it will be most suitable for the owner of a small plantation to make a contract with a local sheep breeder. The owner of a middle-sized plantation can have a suitably sized flock of his own. The owner of a large plantation will not have the resources to sustain a large enough flock and should therefore consider renting out the grazing rights.

When sheep are used alone or in combination with other mechanical methods, it may be necessary to use a small amount of herbicide, depending on the type of vegetation.

The flock's food preference

Two things are important for a good result:

- The grazing sheep must eat weeds, not the trees;
- The weeds must be nutritious for the sheep to thrive.

Sheep cannot digest all plants equally effectively, so digestibility is the most important factor when assessing the nutritional value of the vegetation. Sheep usually prefer the younger plants and leaves, rather than the stems.

The choice of vegetation depends on the sheep's previous experience. The shepherd can attempt to influence preference by introducing lambs to plants and types of vegetation that he would like them to eat willingly in later life. The animals also learn from one another. This is certainly true when applied to damage to the trees, but sheep can also learn from each other to eat the less digestible weeds.



It is important to remember that there is a great difference between a traditional forest floor and newly seeded agricultural land. Sheep find vegetation on agricultural land a great deal more attractive and are, therefore, most effective when grazing these areas.

I feel that it is rather a waste of time to experiment and use methods that have already proved ineffective. A good example is sowing clover in the plantation. Ten years ago, it became clear that sowing clover was damaging for both the trees and the sheep. Small trees can be choked by clover and sheep can suffer from digestive problems after eating too much clover. The same problem can appear where only one kind of weed is prevalent, as sheep need a varied diet.

On a scale from 1 to 5 (where 1 is very interesting to sheep, 5 is only interesting when there are few alternatives) the following selection of vegetation can be given as examples:

Plant Species	Palatability Ranking	Plant Species	Palatability Ranking
Field Bindweed	1	Beech	3
Buttercup	1	Oak	3
Millet Grass	1	Wild Honeysuckle	3
Ash	1 - 2	Larch	3
Dandelion	1 - 2	Hazel	3 - 4
Rowan Tree	2	Thistle	4
Elm	2	Stinging Nettle	4 - 5
Raspberry	2	Nordmann Fir	4 - 5
Willow	2	Rushes	4 - 5
Birch	3	White Anemone	5
Blackberry	3	Noble Fir	5



Shropshire sheep can be used for grazing amongst other varieties of well-established trees, for example in orchards (providing that the branches are high enough to be out of reach). They will be interested in new leaves and shoots, but will leave the bark alone.

The "black sheep"

It is important to observe the flock, as there can be individual sheep which become interested in the trees. When selecting vegetation, young sheep are influenced by the dominant animals in the flock. A single individual that starts to eat the trees can spoil the whole project if it has a high social status. Remove this "black sheep" as soon as possible. Lambs, too, are clearly influenced by their mothers' eating preferences.

Planning a new plantation suitable for grazing

If you intend to design a plantation suitable for grazing, the following factors must be taken into consideration:

- Easy access, so that the flock can be moved;
- Clear areas around the gates;
- Room for a handling pen and feeding facilities;
- Roads and areas adjacent to fences can be sown with clover;
- Access to water and minerals, which should not be placed among the trees as damage can be caused by groups of sheep.

It is extremely important that the sheep can be removed to a suitable field at a moment's notice if problems arise. The adjacent grazing is an essential factor when planning a new plantation.

Routine management and sheep health

Sheep must be checked every day. The flock must have peace and quiet during the summer, when new shoots appear and are at their most vulnerable. If the grazing sheep are ewe lambs, I like to move the flock to other pastures during this period because of their potential adverse behaviour.



Rams must not graze in the trees unless they are with ewes at tupping time, otherwise they will nibble the trees and also damage them by head-rubbing. Newly weaned lambs must not be allowed alone in the plantation. Wait a few weeks until they have become calmer.

After Christmas it is tempting to use the unsold trees as feed, but it is important that the sheep are never fed any kind of conifer, to discourage imprinting. Of course, the trees should never be planted in fields where sheep are grazing.

Sheep health

To prosper, the sheep must be healthy and in good condition and therefore it is necessary that they always have access to water and minerals. Use of minerals containing molasses can be a good thing, but not at all times of year. Molasses tastes good and the sheep then tend to stay nearby. Again, the trees are in danger of being nibbled.

It should not be necessary to feed sheep in the plantation. Feeding the sheep will encourage them to stay in one area instead of grazing over the whole plantation. When the sheep gather expectantly all in one place at feeding time the result will be nibbled trees. The trees will also be in danger if the lambs have a special feeding place, as their mothers will also stay around.

It is impossible to over-emphasise the importance of a correct worming routine throughout the year, not just at shearing time. Sheep that are infested with worms cannot graze effectively and will, because of their stomach problems, look for other food sources, including Christmas trees.

The danger of fly strike

The shepherd must be particularly observant during summer and early autumn, especially while the flock is grazing in well-established plantations, as forest grazing, shelter and high temperatures together give good conditions for fly strike.

This problem typically manifests itself when sheep with dense wool are unable to dry out completely after exposure to dew and rain. It is, therefore, important that the sheep have access to an area that is more exposed to the wind.



The shoulder of the sheep is the most susceptible area for strike. In the first phase of an attack, the sheep will try to bite the affected area. Later, if no treatment is given, it will hide in the vegetation and will soon die.

When avoiding use of chemicals in the plantation, the use of chemicals on sheep should also be avoided. When there is a risk of fly strike, the best method is to shear the sheep at the right time to avoid this problem.

Productivity

In forest areas with acidic soils, the expected growth rate of lambs is normally very close to zero, or negative. On land that has been previously farmed and fertilised, the growth rate can be almost normal, depending on the stocking rate.

If the owner of the sheep and the trees are not the same person, there can be a conflict of interest. If the animals are forced to graze very intensively, they will lose bodyweight, and this may adversely influence later productivity of ewes. Therefore, under unfavourable grazing conditions the sheep farmer is paid by the tree owner for the beneficial grazing of the plantation. Sheep grazing is an environmentally friendly form of weed-control, which reduces the plantation owner's inputs and so has a significant value.

There is little doubt that Shropshire sheep are effective in conifer plantations, but work is still needed to improve our management and understanding of sheep when they are amongst trees. We certainly need to breed sheep in a more systematic way to achieve the special qualities that we desire in a Christmas tree sheep.

Conclusions

- Sheep grazing in plantations is a viable alternative to the use of herbicides. A prerequisite is that the people involved have the necessary knowledge and interest in working with sheep.
- It is economically viable to use animals instead of chemicals when the flock is over 100 ewes. An alternative can be to rent a large flock from a local breeder.
- Weed control with sheep should first begin two to three years after planting.



- The most suitable race (breed) of sheep for this job is the Shropshire.
- Even amongst the most suitable sheep individuals can be found which cannot be trusted to leave the trees alone. These must be removed from the plantation immediately.
- It is important to continue, through breeding, the development of a superior Shropshire sheep for use in this specific environment.
- Finally, it is also important to take note of the experience of others, good and bad, not just our own experiences.

♦ **Conifer varieties suitable for use in grazing systems**

One of the most frequently asked questions about using Shropshires is: Which Christmas tree species prove the least palatable to the sheep? There appear to be no hard and fast rules - much will depend on management. The list below is based on the experience and observations of growers:

- The spruce family, *Picea*, can be said to be safe. Of these, perhaps the least attractive to Shropshires is *Picea pungens* Glauca (Blue Spruce) because of its stiff pine needles. However, Swiss tree growers have found that sheep are sometimes tempted to eat *Picea abies* (Norway Spruce) in early spring, and this is also the case with *Picea ormorika* (Serbian Spruce).
- Pines, *Pinus*, are fairly safe, including *Pinus sylvestris* (Scots Pine), *Pinus contorta* (Lodgepole Pine) and *Pinus nigra maritima* (Corsican Pine).
- Firs, *Abies*, are perhaps the most vulnerable and need close observation when Shropshires are used in plantations. The most likely to be nibbled by sheep is *Abies nordmanniana* (Nordmann Fir), whereas *Abies procera* (Noble Fir) is very safe. Other firs, including *Abies grandis* (Grand Fir), *Abies concolor* (Colorado Fir), *Abies lasiocarpa* (Subalpine Fir or Rocky Mountain Fir), *Abies fraseri* (Fraser Fir) and *Abies balsamea* (Balsam Fir) can be susceptible to nibbling by sheep.



- *Cryptomeria japonica* (Japanese Cedar) has been found to be one of the most vulnerable species, and very attractive to sheep.

◆ Cover-crops suitable for conifer plantations grazed by sheep

Experience has shown that pure stands of clover, or swards containing a high proportion of red clover are a most unsuitable ground-cover crop. The legume can easily choke small trees, whilst sheep frequently suffer digestive problems, such as bloat, after grazing these rich swards. Traditional long-term leys containing a small proportion of wild white clover are considered safe and the inclusion of the clover can contribute to the tree crop.

Opinions vary as to best ground-cover crops to use, although most tree growers agree that mixtures containing several species of grasses and herbs are preferable. Here are some suggestions from tree growers who use Shropshires to manage the herbage in their plantations:

- In Denmark, a lot of experiments have been done in this area and tree growers still do not advocate planting crops of any kind in the plantation, though this may be considered advantageous in very small plantations, or where there are only a few sheep for grazing. This could also be the case if there are no grass fields available to move the sheep onto when the plantation is grazed down. The Danish experience is with large plantations and flocks of 100 - 500 animals. A new plantation planted in arable ground which has been ploughed to a greater depth, gives the trees a longer time to grow before the weeds appear and can be kept clean mechanically. After which, sheep are used to keep the growth of grass and weeds to a minimum, using a large number of sheep to graze for a short time ("on/off" grazing). If the plantation is being re-stocked with newly planted trees amongst older trees, then the Danes use sheep immediately to keep the area clean. This is a concept that works for both sheep-breeder and forester. The Danes would never consider planting a crop that would need to be controlled to keep it suitable for the sheep and to ensure it does no harm to the young trees. When the sheep have finished in a plantation,





Shropshire sheep have been used since 1993 to control weeds and herbage in conifer plantations and in apple orchards at Helfertshof Farm, South West Germany. See page 19 for details.

There are around five thousand Shropshire ewes in Germany, mostly residing on Christmas tree farms.

Picture by Raimund Kohl



Around seven thousand Shropshires are used by tree growers in Switzerland to control herbage in plantations of conifer trees, ranging in size from just a few inches to several metres tall. Swiss breeders leave the tails long on their sheep, unlike breeders in most other European countries who farm at lower altitudes and dock tails to avoid problems with fly strike.

Pictures by Claire Jakeman



A plantation designed for sheep, such as this one in Denmark (top), should include clear areas around gates and perimeter fences or hedges, so that sheep can be moved around easily. Similar strips are laid down through the plantation to encourage the sheep to move and graze throughout. Danish tree growers do not recommend the sowing of cover-crops between trees, but simply allow natural herbage/weeds to grow (bottom), which can then be controlled by Shropshires. Trees in this plantation (in France) range from newly planted to around 6 years old.

Pictures by Graham Allan



In Germany, lambs of both sexes are considered safe to graze with ewes in the tree plantations, as pictured here (top) on Raimund Kohl's Helfertshof Farm in Germany. The docile and friendly Shropshires also play an important role in tree marketing (bottom) and are used to enhance the "buying experience" at Christmas, when trees are sold direct to the public.

Pictures by Raimund Kohl



Shropshires are versatile and thrive in a range of different conditions. (Top) A flock of Shropshires used in a Scottish plantation, and (bottom) Shropshires at work amongst mixed conifers in Lincolnshire, eastern England (Adrian Morgan's Snowbird Flock, based at Castle Bytham near Grantham).

Pictures by (top) Farmers Guardian (bottom) Adrian Morgan



(Top) Shropshires in commercial apple orchards (semi-dwarf trees) at the Research Centre for Fruit Growing at Lake Constance, Bavendorf, Germany. Although Shropshires ate the leaves on low branches, they did not strip bark and the long-term viability of the trees was not affected (see page 24). (Bottom) Shropshires grazing in vineyards, Alsace, France.

Pictures by (top) Raimund Kohl (bottom) Michel Heyberger



(Top) British Shropshire ewes make excellent mothers, rearing twins with ease and producing lambs with very little difficulty for many years. (Bottom) An export consignment of British Shropshire shearling ewes.

Pictures by (top) Archie Miles (bottom) Pauline Bowles



(Top) British Shropshire rams are robust with good conformation. They are hardy, long-lived and able to work early for December lambing.

(Bottom) A British Shropshire ram's head.

Pictures by (top) Tim Scrivener (bottom) Peter Dean

they can be moved on to the next one and the next one again, thus making a rotation between the various plantations.

- Swiss tree growers recommend that the ground-cover vegetation should comprise a very broad variety of different grasses and herbs. Some also advise that shrubs and deciduous trees, such as hazel and willow, should be included because this significantly reduces the risk of sheep starting to nibble the conifer trees. "Modern" agricultural herbage mixtures, containing a high proportion of only a few grass species (for example 60% Perennial Ryegrass) are also thought to increase the risk of sheep nibbling the Christmas trees.
- Some German and Swiss tree growers advise that instead of planting a cover-crop, growers should wait for a native "green up" between the trees. The advantages are a higher percentage of different herb species and no additional cost to the grower. This natural vegetation is usually highly attractive to sheep and within two or three years of grazing, it will have developed into a good dense sward.
- In the UK one experienced grower recommends using a mixture of 60% of the late heading "Amenity" Ryegrass variety (bred for sports/leisure use) called Aber Imp and around 40% of Creeping Red Fescue, such as Boreal or Pernille, plus 2% wild white clover. This mixture does not produce much grass for the sheep, but it covers the ground and prevents problems with perennial weeds - and mud. If the grass is sown with or before the trees are planted, a seed rate of 60kg per ha is sufficient. If broadcasting seed between two or three year old trees, seed rates of up to 100kg per ha may be required, which is rather expensive. An alternative suggested by another tree grower is any popular "long-term" grass mixture, which is likely to cost less than seed mixtures containing "Amenity" grasses.

◆ A British Christmas tree grower's viewpoint

by Adrian Morgan

Adrian Morgan runs a business specialising in all aspects of the Christmas tree crop, and has a six-acre holding in Lincolnshire. He planted his first Christmas trees in 1997.



I am delighted to see a steady increase in the number of Christmas tree growers now using Shropshire sheep for the majority of their weed control. Ten years after the arrival of my first six sheep, I now run two flocks, one at home and another, (granny flock) on a friend's plantation some 70 miles distant. Not only do my sheep perform most of my weed control, but they have also become a significant hobby! I still have not found the time or courage to show them, but I am sure it will happen one day.

I am often asked about the relative cost of weed control by sheep and by conventional chemical methods. For existing sheep keepers, the additional costs of Shropshires in trees are minimal and likely to afford significant savings when compared with chemical weed control. Over a four to five year period, the financial cost of keeping sheep is likely to be broadly similar to employing a spray contractor to apply herbicides three or four times a year. The only snag is your time spent in shepherding has to be provided for free!

When I first established my Christmas tree plantation, I used conventional chemical weed control for the first three years and introduced sheep in the summer of the third growing season after under-sowing grass seed in the spring. If you were just starting out with trees, I would advise you to wait at least two seasons before introducing sheep. Sheep can be grazed amongst much younger trees, but tree establishment is much slower if grazed grass is competing for moisture and nutrients.

If you are an existing grower and want to introduce sheep, I would recommend that you under-sow a grass ley in early spring. Opinions differ as to the best seed mixture to use. My home plantation was under-sown with a traditional long-term agricultural ley including wild white clover. Nordmann Fir is a major species for me and on my poor alkaline soils requires significant fertilisation to maintain colour and condition. Unfortunately, my grass tends to utilise much of the fertiliser before it is available for the trees and has to be heavily grazed to keep it under control. When I had an area of my friend's plantation to under-sow to support my sheep, we chose a more expensive amenity grass mix which is much easier to control and is less likely to run away with his increasingly costly fertiliser!

After ten years of sheep in trees, I can happily say I am still learning. We were privileged to be one of the hosts for the 125th Anniversary World



Congress tour of the Shropshire breed society. Among the delegates were a number of experienced Swiss tree growers who persuaded me to allow sheep to graze in the trees all through the growing season.

Previously I would have taken the sheep out of my trees as they were bursting bud. This year after an early shear, (to prevent loose wool sticking to the emerging shoots) my ewes remained in my trees with their lambs with only minor grazing damage to a very small number of trees.

As I said, we are still learning. When I first kept sheep, I found Graham Allan's advice invaluable. I have tested most of his rules and I now think I know enough to be able to pass on a little advice for grazing sheep in Christmas trees.

- NO RAMS. Under no circumstances allow your rams into your trees! They avidly mark territory by thrashing their heads, usually ruining the thickest and best trees.
- Keeping one lonely ram is not really fair. Keeping two can result in endless bone-shuddering duels. Three is a happy number. Of course if you prefer not to keep a ram, there is now an alternative. A small number of UK breeders, myself included, offer a 'Ram-Bank' hire service of tups for breeding.
- When your trees begin to break bud, shear your ewes and keep a watchful eye out for any grazing on the trees.
- At weaning time, be sure to keep your sheep out of your trees for a week to ten days while they settle back into a routine.
- Always ensure you have enough grass through the summer to keep the ewes well fed and grazing 'head down' while they are in your trees. It is advisable to have a separate paddock next to your trees to turn the sheep into when grass becomes scarce in the plantation. We have about an acre of paddock at home, but by renting land locally, we can now call on up to a further eight or ten acres.
- A rough guide for a stocking rate is about three sheep to the acre in plantations under 1.5m tall. In taller trees, there is less available grass and stocking levels will need to be adjusted downwards. I now have over 20 sheep at home and just four acres of trees. I now prefer to graze the sheep in the trees for short periods and move them out when the grass gets too short.



- Always have a mineral bucket next to the water trough. I use a high magnesium bucket when turning out onto fresh grass and a "general purpose" mineral at all other times. Without a ready supply of minerals, your sheep will seek them by eating your trees!
- Continental growers advise making some broadleaf trees and shrubs available for grazing. I am lucky in having thick hedges all around my plantation which get heavily grazed.
- Fly strike can be a major problem in trees, particularly as the tree crop grows to give more shade. Try to resist the temptation of planting every square metre and allow more open well-ventilated areas of the crop for sheep to lie on hot summer days. Our plantation has wide grassy rides, which are ideal for this purpose. Keep a strict regime of fly protection: I now use 'Vetrazin' before shearing and for rear-end treatment after shearing. I then apply 'Clik' in early July, which gives 16 weeks' protection. Before 'Clik' was available, I had been caught out several times by thinking the summer had finished by early September. I can assure you that the Greenbottle fly remains active in Lincolnshire much later than that!
- Ram lambs should not be grazed in trees after about July, but castrated males should be OK, even up to a year old.
- After the end of September, your trees start to become dormant with less sap in the foliage. I find that with a four or five week break for tupping, I can happily keep my sheep in the trees throughout the winter, even when feeding hay and concentrates, and they will not bother my trees. Depending on the severity of the winter I keep in-lamb ewes in my trees until three weeks before lambing.
- Your sheep will not control nettles, thistles and brambles. Depending on the season, they may also avoid willow herb and docks. All of these weeds will need to be spot-sprayed when your sheep are not in the trees. Early May and late September are ideal times for this. Use a product such as Broadsword or Grazon 90, but do not use these between May and September when high temperatures may lead to crop damage from chemical vapour. Thistles can safely be controlled all year round with Dow Shield. Always seek specific advice from a BASIS qualified crop advisor.



- Avoid the temptation to over-stock. When I first started keeping sheep I didn't have the access to additional grazing that we have now, and our then very young trees plus our own paddocks could just about keep the ewes well-fed. As more lambs and ewes came along we did have some problems with a particularly nasty diarrhoeal infection called Coccidiosis. This is normally avoided by moving animals regularly onto fresh pasture, which may be difficult for some tree growers.
- One important factor in avoiding over-stocking is to ensure that your lambs finish, (come to a marketable 35kg plus) in the year of lambing. I now ensure all lambs finish before October by extensive and expensive creep feeding!
- Regular grazing without a break on the same crop areas presents some difficulties in disease and parasite control in your flock. If, like us, you do not have enough grass to take a hay crop, intestinal parasites can be difficult to control. We think we have the Coccidiosis and roundworms under control, but taking up the offer of a free piece of grazing too soon after another flock, has left our lambs with a tapeworm problem that has spread to all our grass.

I don't think we will ever make a profit on such a small flock and my wife flinches every time another Central Wool Growers bill arrives in the post. I sometimes wish I didn't have to constantly trim feet, drench and dag, (trim away soiled wool from the crutch area). The truth is that my small flock remains expensive and time consuming and the animals' welfare always has to take priority. When they do fall ill, you can usually identify a shortcoming in your own management; oh and yes, the old adage that sheep can die for no apparent reason does seem to be true!

Despite all the challenges, I still find keeping sheep to be a very effective means of low environmental impact weed control and, at the same time, interesting and rewarding.

◆ Shropshire sheep on a German Christmas tree farm

Helfertshof Farm in the Odenwald Hills of South West Germany has been farmed by Raimund Kohl's family for over 300 years. Until the middle of



the 20th century, the holding was a traditional mixed farm with arable crops, forestry and a small number of livestock. But the enterprises gradually changed to reflect the relatively poor quality of the soil, derived from granite, and the steeply sloping topography: Arable land was converted to pasture and farming became a part-time operation.

The first two acres of Christmas trees (Douglas Fir) were planted in 1968. Being within a 25km radius of the conurbations of Weinheim, Mannheim and Heidelberg, the Christmas tree business flourished. Trees took over more and more of the land, and the farm now has about 20ha of forest (60% coniferous wood, 40% hardwood), and an additional 8ha of Christmas trees, all marketed direct to the public from the farm. The main species grown include Nordmann Fir, Noble Fir and Subalpine Fir. Others are Grand Fir and Norway Spruce. Small numbers of Blue Spruce, Fraser Fir, Korean Fir and Colorado Fir are also grown. The farm still incorporates about 15ha of grassland. Pedigree Shropshire sheep were first introduced by Raimund and his wife, Claudia, in 1993, specifically for use in the Christmas tree plantations. The sheep rotate between the plantations, keeping down the herbage through short periods of intensive grazing. Currently the flock comprises 25 ewes, 6 flock replacements and 4 stock rams. Raimund finds that genetic diversity is a key element in the marketing of pedigree stock.

Raimund runs a retail business as well as a "choose and cut" Christmas tree enterprise, which allows customers to pick their own trees. Plantations contain trees ranging from those that are newly planted and just a few cm tall, to trees aged about 12 years and over 2.5m in height. Some trees are allowed to grow to around 10m tall and these are marketed in the festive season to organisations requiring substantial trees for churches, shopping centres and market squares.

The Shropshires do a good job in the Kohls' mixed plantations and can be trusted not to damage even the tiniest trees. When grazing amongst the trees, the sheep are provided with a mineral supplement to counteract lack of trace elements on the poor sandy soil. Without this, the ewes are likely to nibble trees and the lambing percentage (the average number of lambs produced by each ewe in the flock) will also decline. Brambles, thistles and nettles, which normally remain untouched by the Shropshires, are controlled mechanically or by "spot spraying" with herbicides.



Differences between German and Danish sheep management systems

Raimund follows many of the flock management principles set out by Graham Allan in the first section of this booklet. However, there are some areas in which his management strategy - and that of other German tree growers who use sheep - differs from the Danish system:

- Shropshires are used in newly established tree plantations because sheep have a positive effect upon the density of the ground-cover vegetation. The grazing of sheep also causes less damage than mechanical weed control around small tree seedlings.
- German tree growers say there is no greater additional risk of tree nibbling when new shoots appear at the end of May. The risk declines gradually from the start of the growth season in March/April until the autumn.
- Ewes with young lambs (of both sexes) are considered safe to graze in tree plantations. The risk of tree nibbling by ram lambs does, however, increase a little once the animals are older than three months. In Germany, ram lambs are often run with their dams in the plantations because most flocks lamb in March and lambs are not weaned until they are older than three months. Sheep farmers can ensure that sufficient food is available for their flock by adjusting the stocking rate and the speed of grazing rotation to suit their particular situation.
- Growers in Switzerland have shown that a "set stocking" system can be successful in tree plantations, where the sheep graze amongst the same trees from spring until autumn. As the summer progresses, the number of sheep usually has to be reduced to reflect the decline in the availability of grass and herbage. This system produces a dense, highly digestible sward with high protein content. Where a rigid rotational grazing system was practiced, German farmers frequently found that herbage was too tall for sheep to graze effectively in the first plantation by the time the rotation cycle was complete. In practice, therefore, many run a hybrid rotational/set stocking system that can be adapted to the rate of herbage growth in their tree plantations at different times of year. The stocking rate in Raimund's plantations varies between 10 and 30 sheep per ha, depending on tree age, density and herbage growth.



- Experience at Helfertshof has shown that Shropshires can also be used to clear shrubby growth from conifer forests. In this situation, Raimund uses only mature ewes, because there is usually insufficient feed value in the herbage to support growing lambs. The ewes will, however, graze woody broadleaved vegetation, such as willow and broom, as well as furze and gorse, and they also trample down vegetation between the trees making it easier for the farmer to spot spray weeds that they don't consume. Sheep also eat the flowers of thistles and young shoots from bracken fern.

Type of Shropshire sheep

Raimund agrees that there are some bloodlines within the Shropshire breed that are more susceptible to stress and are, perhaps, therefore more likely to nibble the trees. In the first few years following the introduction of Shropshires to Helfertshof, he identified some of these bloodlines, which came from Denmark, and he removed them from the flock. After changing to English bloodlines, the Kohls have experienced virtually no tree damage. They have since imported male and female pedigree stock many times from England. These are used to produce larger-framed, meatier animals than the pure Danish Shropshire bloodlines that are readily available on the Continent. Raimund prefers to breed "open-faced" Shropshire sheep (without a lot of wool on the head) because he finds this type of animal the easiest to manage in the plantations

He also reports that English Shropshires have "easy-care" attributes and, in particular, are generally less prone to lambing difficulties. His "English-based" breeding programme maximises the farm's returns from breeding stock, and he has exported Shropshires to France, Belgium and Switzerland. The sales strategy is based on sheep quality as well as on a free consultancy service for his customers. He provides assistance to novice sheep-keepers and those who have never used sheep in trees before. Customers typically have a lot of questions. For example, many tree growers are concerned that sheep will distribute aphids from infected trees through the whole plantation. However, experience shows that this is not a concern, because aphids settle mainly in the top of Nordmann Fir and are, therefore, out of the range of the sheep.



Use of sheep in fruit trees and energy crops

The farm at Helfertshof also includes an orchard area comprising apple trees that are between 10 and 15 years old. The lowest branches of these mature trees are about 1.3m above ground level. Shropshires have been used to graze the orchards for the past 15 years and have never stripped bark from the trees or caused other damage.

The Kohls also grow red and black currants in the same area, which they protect with a small fence and netting until the fruiting season is over. At the end of August, they open the fence and allow the sheep to graze the grass around the fruit bushes. The Shropshire also eat the currant leaves, but without destroying the twigs with buds.

Raimund is also working to extend the use of Shropshires to other tree species: He was instrumental in setting up a trial using the breed in commercial fruit trees at Lake Constance Research Centre (see page 24) and has recently sold sheep for grazing in a robinia tree plantation, grown as biomass for energy production.

The positive role of Shropshires in tree marketing

Raimund points out that tree growers who use Shropshires in their plantations may also find the sheep very useful in their marketing activities, especially during the run-up to Christmas. The general public has a growing social conscience about environmentally-friendly tree production methods. Growers using Shropshires can bring this aspect to the fore in their marketing and advertising, and this can be especially effective when selling direct to the public, as with "Choose-And-Cut" systems.

Marketing professionals appreciate the growing importance of the whole "buying experience" and acknowledge that success no longer depends upon just the product and/or the price. In contrast with sales made through supermarkets and urban outlets, the direct marketeer has the opportunity to create a special Christmassy atmosphere in his sales yard.

Here, small actions can have big effects: A decorated Christmas tree at the entrance of the farm; garlands on the doors of house or barn; decorated pine or fir branches (especially popular in Germany) and maybe even a booth offering mulled wine, all create the right atmosphere. Although it may seem



a bit excessive - even a little kitschy - the Kohls have found that customers from towns and cities respond to this idea of the "country idyll".

Shropshire Sheep can be used to build up the farm attraction, making a trip to buy a tree all the more appealing. Being an attractive and docile breed, the Shropshire is ideal for this role. Some farms capitalise still further on the pulling power of the sheep by lambing early in December, so that very young lambs are available for viewing.

Buyer studies in Germany show that it is the children in families who decide where the Christmas tree is purchased. It is, therefore, important to develop attractions specifically for children. The biggest of these is undoubtedly the animals on the farm and not every Christmas tree seller has sheep available as a sales attraction. It is also possible to set up a small "children's zoo" with rabbits or guinea pigs, even if it is only for the Christmas season.

◆ Shropshire sheep in fruit tree cultures

Practical experience on many farms suggests that Shropshire sheep can be grazed in deciduous tree plantations, such as orchards, without causing damage. In this scenario, just as in conifer plantations, their use brings the benefit of environmentally-friendly herbage and weed control.

If, additionally, the sheep eat fallen leaves, their presence can help to control the spread of serious fungal diseases such as scab. This could be a significant benefit in organic systems, where routine use of agrochemicals is not permitted.

In 2006, a formal trial to establish the suitability of Shropshires for use in commercial fruit tree cultures commenced at the Research Centre for Fruit Growing at Lake Constance in Bavendorf, Germany. This trial set out to establish (i) whether the sheep could be used for effective grass and weed control without damaging the trees, and (ii) if they could play a role in removing scab-contaminated leaves from the ground in autumn.



Commercial fruit tree cultures

The orchards used in the trial were typical of modern commercial fruit tree cultures, which are different from the traditional orchards found on many farms. Commercial orchards have small trees with low branches - between 0.6 and 0.8 metres from the ground. Trees are also planted close together with spacing of 0.8 to 1.5 metres between trees, and 3.2 to 3.5 metres between rows. Grass is sown between the rows and this is usually mown and mulched 4 or 5 times each year. Directly under the trees, the vegetation is removed by mechanical cutting or spraying with herbicides to reduce competition for nutrients and water. Especially in organic farmed plantations, the removal of fallen leaves with some type of collection device is also recommended to reduce the reservoir of scab infection.

Details of the trial at The Research Centre for Fruit Growing

The trial commenced in 2006 and ran from early summer through to the end of autumn at the Lake Constance Research Centre. The Shropshire sheep used were supplied by a Christmas tree farmer who uses the breed.

The grazing trials assessed the performance and behaviour of the sheep in three different types of apple tree cultures where the trees differed in age, type of root stock and the height of the branches above the ground. There were also differences between the management systems applied to the tree plots, and differences in the type of herbage growing between the trees. These elements are summarised in the table at the end of this section.

Observations and conclusions

- Shropshire sheep were docile and easy to manage amongst the fruit trees. Water and minerals had to be provided for them, but no additional adaptations, such as extra shelter, were required.
- In all plots, sheep kept the ground vegetation tidy and short, with the exception of nettles. As a result, routine mowing was not necessary. Spots with nettles did not affect tree productivity. If nettles are cut and left to dry on the ground, Shropshire sheep are then likely to eat them.
- Under normal weather conditions, the grass sward surrounding the trees remained in good condition whilst sheep were grazing the plots.



More careful management of the sheep (for example, shorter grazing periods) might be required during exceptionally wet seasons.

- Tree foliage in the growing season was attractive to the sheep. Any leaves within reach of the animals were eaten, and the height to which tree foliage was consumed corresponded to the size of the sheep. In general, all branches to a height of 1m above ground level were defoliated. The animals did not, however, rise on their hind legs to reach higher up the trees. The amount of damage caused to the lower branches and soft shoots depended on the quantity and quality of other herbage on offer within the trial plot, and thus on the pasture management.
- Growing leaves were eaten by sheep from the first day of the grazing period in each trial plot. As the supply of grass diminished, the sheep began to damage young tree shoots as well. Woody branches and twigs with buds remained safe. Only a few of the latter were damaged, and this occurred only when other herbage was in short supply.
- To minimise the tree damage, regulated management of the surrounding pasture is necessary. If possible, sheep should not remain in the same area for longer than three weeks. Large plantations can be divided up into smaller areas with a mobile electric fencing system.
- The thicker bark on older trees remained untouched by the sheep. Some damage was recorded in plots with younger trees. This was observed in a situation where herbage supply was short, and occurred only at the location where sheep rested. Compared with an earlier trial using Milk Sheep, the damage caused by Shropshires was insignificant and did not affect the long-term viability of the trees.
- Use of sheep in apple tree cultures with strongly growing (semi dwarf size) root stock (for example: M25, MM106 and MM111) is recommended. With the standard root stock, M9, the leaf loss had too strong an impact on the nutrition of the tree.
- Any chemical spray treatments required by the trees must be carefully co-ordinated with the sheep grazing management. Disease resistant tree varieties which require a reduced spray programme are best suited to systems where sheep are utilised.



- Because of the very wet weather experienced during the autumn of 2006, it was not possible to tell if Shropshire sheep will also eat fallen leaves. During the trial, the fallen leaves quickly become soggy and many were also smeared with soil, making them unpalatable to the sheep. Shropshire breeders using sheep to graze traditional farm orchards report that the animals do consume dry, fallen apple leaves. Further research will be necessary to answer this question conclusively.

Overall, the trial showed that Shropshire sheep are suitable, in principle, for use in fruit tree cultures, however some management restrictions must be accepted.

In addition, fruit tree growers who market produce direct to the general public may find that the sheep can be used successfully to promote the "green" credentials of their businesses. Pollution-free production is an attractive concept to today's consumer. Shropshire sheep are a docile and attractive breed and they can become a marketing attraction in their own right.

	Plot 1	Plot 2	Plot 3
Period grazed by Shropshire sheep	During full foliage (May - June)		During leaf fall
Age of trees and type of root stock	Older than 20 years, Middle high stem	Planted in 1996, A2 Semi dwarf size	Planted in 1987, M9 Dwarf size
Stem height above ground (to lowest branches)	Varies 70 to 85cm	60 – 70cm	Dwarf size
Management system	Very extensive No grass cut No chemical spraying	Often mulched. Trees pruned in winter. No chemical spraying	Organic apple tree plantation, sprayed frequently with permitted substances
Vegetation surrounding trees	Old grass	Fresh young grass	Grass cut very short and mulched



◆ Shropshire sheep in vineyards

Christmas tree grower, Michel Heyberger, established a flock of Shropshire sheep primarily to maintain his plantations at Val de Villé in the Alsace region of France. Being an ecologically-minded grower, he had searched for some time for a "green" solution to weed control that did not require use of herbicides.

As Michel had no experience of keeping sheep, he teamed up with Alexis Chavant, a young shepherd who lives locally. Together they purchased a small flock of 20 Shropshires, which Alexis manages on a day-to-day basis. The sheep worked well in Jean Michel's conifers and quickly proved capable of clearing the herbage in the plantation without damaging the trees. The business partners then successfully extended the use of their flock into orchards and vineyards.

In orchards, Michel confirms that Shropshires keep down the herbage between trees without causing damage to the trees themselves. The sheep also eat all the rotten fruit, which prevents fungi from developing. Rams, however, must not be allowed in orchards because they tend to rub against the trees and may damage bark and low branches, he advises.

In vineyards, Michel reports that Shropshires also perform an excellent job of clearing the herbage from the areas between the rows of vines after the grape harvest. The Shropshires eat the leaves in autumn, but do not touch the branches or the woody stems, even though the vines are completely unprotected from the grazing animals.

He recommends that sheep are introduced in October, about a week after harvest. As long as there is sufficient herbage for them, they can remain amongst the vines until spring. They must be removed as soon as the vines are budding, because the sheep will eat young leaves and this would have a detrimental effect on vine productivity.

A stocking rate of between 5 and 7 sheep per hectare of vines, depending on the grass and herbage available, has proved successful. Manure produced by a small flock is an added bonus for the wine producer. The only constraints identified in the system so far are that sheep must be contained within the vineyard by means of an electric fence around the perimeter.



◆ The Shropshire: A sheep for today's markets

The Shropshire has the distinction of being the oldest pedigree sheep breed in the UK. Developed by farmers in the West Midlands region as the supreme dual-purpose (meat and wool) breed of the mid-19th Century, Shropshires have retained these characteristics along with the ability to flourish in a range of different climates and farming systems.

One of the Shropshire's prime attributes is its ability to gain weight from grass alone. Shropshire lambs fed on good pasture are ready for market in 12 to 16 weeks and are able to meet the demanding conformation and lean meat requirements of today's meat buyers. Shropshire lamb is known for its good flavour and succulence.

Shropshire rams are renowned as being excellent terminal sires and are used successfully for crossing with commercial ewes, such as Mules. Shropshire tups have good conformation and are robust, hardy, long-lived and able to work early for December lambing. The ewes make excellent mothers, having a good supply of milk, rearing twins with ease and producing lambs with very little difficulty for many years. They are docile and extremely hardy. The breed is prolific, achieving a consistent 160% lambing. At birth, Shropshire lambs are strong and active, with a real will to live.

Today, flocks of Shropshires are to be found throughout the UK, from the Orkney Islands in the north to Cornwall in the very south west of England. In recent years, the breed has also become firmly established in many northern European countries, such as Denmark, Germany, Austria and Switzerland, thanks to its ability to graze in conifer plantations without damaging the trees.

Breed description

The Shropshire is medium size with typical mature rams and ewes weighing 120+ kg and 70+ kg, respectively. Shropshire sheep are active and alert, with a free action.

The head is naturally clean, with a soft black face with a covering of wool on the poll. Rams should possess a bold masculine head. Ears should be soft black in colour, of medium length and well set on. The neck should be muscular and not too long.



The body is well-fleshed, long, deep and symmetrical. The back should be broad and straight with well sprung ribs. Rump - quarters should be long and wide with the dock well set on and gigots full and deep. The legs are medium in length, of strong bone and with upright joints, well set apart and soft black in colour.

The skin is cherry pink coloured, covered in dense, fine quality wool weighing 7-9lb (3-4kg) with an average staple of 4 inches (10cm). The wool has a Bradford Count of 54 to 56 (32 microns).

◆ How to buy Shropshire sheep in the UK

The Shropshire Sheep Breeders' Association has members throughout the UK. The society can arrange flock visits for potential buyers and will endeavour to match up buyers with sellers in their locality. The SSBA also has available an illustrated booklet that summarises the breed traits and desirable and undesirable characteristics of Shropshire sheep. This is a useful guide for buyers and can be purchased from the Breed Society Secretary.

Please note: All pedigree sheep available for purchase should be fully registered with the breed society before the sale takes place or, in the case of males, birth notified.

Where to see Shropshire sheep

Many agricultural shows hold classes specifically for Shropshire Sheep. Shropshires are likely to be exhibited at the following events: Stafford County Show, East of England Show, Three Counties Show, Cheshire County Show, Shropshire and West Midlands Show, The Royal Show and The Royal Welsh Show, as well as one-day shows in the Midlands and the North West.

Sales Register

Members with stock for sale frequently advertise on the breed society's website: www.shropshire-sheep.co.uk. This is updated regularly throughout the year. Additionally, you can contact the society's Sales Officer (see



Useful Contacts section) who can provide you with the most up-to-date list of breeders with stock available.

The Breed Society's show and sale

The SSBA holds an annual show and sale at Melton Mowbray Market, Leicestershire early in September. Details of the show and sale can be obtained from the breed society's Secretary (see Useful Contacts section) and will be publicised on the SSBA's website during the summer. Breeders also sell stock at Traditional and Native Breeds Sales organised regionally by the Rare Breeds Survival Trust (see Useful Contacts).

Sheep for export

The breed society regularly exports Shropshire sheep to overseas breeders. The SSBA can arrange for buyers to view and select their own stock from flocks that meet the necessary export health requirements. Alternatively, the breed society can arrange for stock to be selected to buyers' requirements by an inspector nominated by the breed society or the buyer. For more information, please contact the Export Officer (see Useful Contacts section).

◆ The value of joining The Shropshire Sheep Breeders' Association

The Shropshire Sheep Breeders' Association promotes the breeding of Shropshire Sheep in the UK and abroad. It produces an annual Flock Book and undertakes the registration of male and female pedigrees. Tree growers with Shropshire sheep are welcomed as members of the breed society. By joining the SSBA, you will receive many benefits:

1. Maintenance of breed purity: By keeping your flock registered with the breed society, you will enhance its value. Only animals that have been registered as pedigree with the SSBA can be verified as pure-bred Shropshires.
2. Avoidance of in-breeding: The breed society keeps detailed records of all pedigree animals and can, therefore, advise individual flock-owners about how to avoid in-breeding. The SSBA recently commissioned an



independent analysis of the Shropshire gene-pool to gain a clear picture of the genetic variation that currently exists within the breed.

3. Stock sales in the UK: The breed society helps members to sell their sheep. It organises an annual show and sale (open only to registered sheep) and members can also advertise stock on the SSBA's website. The breed society has a dedicated Sales Officer, who helps match buyers with members who have sheep for sale. The SSBA also produces the annual RamPages, a publication in which members can advertise registered rams and ram-lambs that they have for sale.

4. Management and husbandry advice: The breed society provides support and advice for its members on a regular basis through a quarterly newsletter, ShropTalk. Advice from the breed society helps members maintain a high health status in their flocks and also helps them to comply with the latest DEFRA regulations - for example on ear-tagging and transport of livestock.

5. Export sales: The breed society promotes UK-bred Shropshires overseas and regularly receives export orders. Only sheep belonging to members of the breed society are eligible for export orders.

6. Breed improvement: The breed society supports a Breed Improvement Scheme, run in conjunction with Signet Breeding Services, which identifies genetically superior sheep for selected commercial traits. The results of the Scheme are made available to all members of the breed society.

Breed society membership

The SSBA offers four different categories of membership: Full, Junior, Associate and Overseas. For more information and/or joining forms, please contact the SSBA's Secretary.



Useful contacts

SSBA Website: www.shropshire-sheep.co.uk

SSBA Secretary:

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Tel: +44 (0)1434 240435 Email: shropshire_sheep@hotmail.com

SSBA Sales Officer:

Claire Jakeman, 1 Bents Cottage, Poole Lane, Thornton le Moors, Chester CH2 4JB.

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SSBA Export Officer:

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Graham Allan (*pioneer of conifer grazing systems*)

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Adrian Morgan (*tree grower and Shropshire sheep breeder*)

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Raimund Kohl (*tree grower and Shropshire sheep breeder*)

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Michel Heyberger, 12 quartier Saint Gilles, 67220 Thanville, France

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Rare Breeds Survival Trust, National Agricultural Centre, Stoneleigh-Park, Warwickshire CV8 2LG

Tel: +44 (0) 2476 696551 Email: enquiries@rbst.org.uk

Website: www.rbst.org.uk

The wish by tree growers and viticulturalists to use fewer chemicals has resulted in the use of other methods of weed control. One of the most interesting approaches has been grazing with Shropshire sheep.

This helpful booklet includes invaluable advice from a number of experienced growers and shepherds.



Shropshire Sheep Breeders' Association

www.shropshire-sheep.co.uk

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