

Insight

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Royalties: a taxing problem for plant breeders

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resources



Royalties: a taxing problem for plant breeders

Traditionally the certified seed price of field crops includes the cost of royalty. This practice of 'front end' loading royalty is now not only outmoded but paradoxically is proving to be counterproductive. Furthermore, as long as royalty remains attached to the seed price it will be regarded as a tax rather than a reward for innovation.

This article addresses some of the issues facing the European Plant Breeding Industry and its intention is to stimulate debate on how to achieve better intellectual property management.

Plant breeding – adding value or losing value

For the purpose of this article reflect on the detail on Table 1. The illustration below is a hypothetical example which shows the inability of the industry to capture a fair share of the value added. The problem of course is that adding value infers that a value has been established in the first place and I am afraid that in the cereal industry this is poorly established.

Annually, the royalty on new improved varieties is gauged on that which is already within the market, rather than the value being added. Figure 1 describes a hypothetical but very typical scenario.

Figure 1: A problem with the existing system

'Artic' winter oat offers a 5% higher yield
Average farm yield = 7.5 t/ha, equivalent to 375 kg/ha extra grain produced by 'Artic'
Market value @ £120/tonne = extra £45/ha
1 tonne of 'Artic' oats seed plants 7 ha
Added value of 'Artic' per tonne of seed is £315
And what do the 'Artic' breeders do?
Increase the royalty from £65/tonne to £70/tonne, equivalent to £0.71 per hectare.

“The lifeblood of plant breeding lies in effective Intellectual Property”

Chris Green





Intellectual Property within your organisation

Plant breeding is about uptake of innovation, it is therefore about intellectual property and its management, so consider for one moment the situation within your own business.

What resource does your company devote to IP management?

What is the name of the person responsible for managing your Intellectual Property?

Now, by 'managing' I do not mean who accounts for the royalty returns, or who looks at the figures and reports them to the board and shareholders. What I mean is who has the function of considering your IP strategy and its tactical implementation? Now name your breeders and financial accountant. What I hope this illustrates is how industry executives understates the role of IP and this is at the heart of the problem. Each year millions are invested in plant breeding and new product

development but all too often when it comes to managing the IP there is little deliberate consideration to specifically review the IP position or to encourage fresh ideas or approaches to its management. A company's activity may be plant breeding but should it be more about managing innovation?

Probing deeper into what happens in your own company, there are two further questions:

How do you set the royalty rate for a new cereal variety?

Are you constrained in any way by the conventional approach of simply adding royalty to the certified seed price?

It would appear to be a common practice that annual royalty rate increases reflects that which already exists plus inflationary increases. This is hardly a dynamic model when value adding is ignored!

What these figures illustrate is the inability to capture a fair proportion of the value which has been added. Increasing the royalty rate on the cost of seed is self defeating as it further distorts the value of certified seed to farm saved. Remember that the genetic potential of a variety remains the same, regardless if the seed planted is sourced as certified or farm saved.





Several other factors impact negatively on the front end loading approach of royalties. The first is that generally the arable seeds market is inelastic and in the case of certified seed royalty represents just one cost component. Any price increases, for instance in the cost of seed treatments or fees for certification, will further polarise the economic differential between certified and farm saved. Compounding the problem is the trend towards the earlier drilling of winter cereals, coupled with new drill technology and larger farm enterprises, which mean that seed rates are being reduced. Reducing seed rates by ten percent means that the royalty on the seed has to increase by the same amount just to stand still and as so the spiral becomes self-perpetuating.

A further issue in the UK is that royalty is not shown as a separate cost item in the overall seed cost to the grower. The grower does not actually know the royalty rate that is charged, they therefore know the seed price of a variety but not its genetic value. So how can growers appreciate the value when they do not know the price? As the royalty is an invisible charge it follows that it cannot be tangibly understood and, consequently, will not gain universal respect.

How do we change the mindset?

There is a mindset that views seed and genetics as one and the same. This is not the case. Farm saved seed is used not because it is cheaper but because the variety was a success on the farm. If a variety failed to perform then it is unlikely to be used as farm saved seed. What this demonstrates is that the grower – perhaps subconsciously – appreciates and values the genetics.

The challenge is to shift the attitude of growers, advisers and those in the value chain that genetics has a value. The Plant Breeding Industry must

Organise an internal IP seminar

There is no quick fix to changing the mindset. Change will be a long progress and it must start within our own businesses. As a starting point, undertake a critical analysis with an internal review on how you handle Intellectual Property. Such a review should be initiated on the basis of wanting to bring about improvement and be set against some clear corporate objectives. Map out a route with measurable milestones. Enhance the profile of IP within your organisation by engaging wider and more diverse managers. Share the goals. Consider models in other industries. Think dynamically. Encourage creativity and be adventurous. Remember, informing is not enough. It requires education.





adopt a more aggressive communication campaign coupled with a more transparent declaration on royalties.

So why change a system that has served us so well over the years?

‘The plant breeding industry thrives on technical innovation; unfortunately this innovation is not always extended commercially.’

Over recent years European breeders have benefited from the collection of royalties on farm saved seed of protected varieties. While this income is very welcome, it is at a cost.

With a default rate of 50% of the certified royalty rate applying to seed used as farm saved, it could be argued that, as the genetic delivery remains the same, the first IP evasion is this 50%. In some ways this is an institutional evasion but it is the system under which the industry has to operate. However this highlights one of the major concerns in that any IP system should be fair and be seen to be fair to those who benefit.

Discounting farm saved by 50% is hardly fair especially when the genetics (ie that which is actually IP protected) is the same regardless if certified or farm saved. The fact is that the system is imbalanced. Increasing royalty rates on certified seeds invariably makes FSS that much more financially attractive. This inequity in the genetic value is a fundamental issue. Schemes and systems which are not fair and equitable are unlikely to be sustainable in the longer term.

Over the years that there has been a royalty collected on farm saved seed it has encouraged high levels of evasion and false declarations. This often blatant evasion deprives the plant breeding industry of funds. Growers who evade payment of royalties are guilty of intellectual property theft. Intellectual property theft is a crime.

Why should it be that there are two rates when the genetic expression is the same? Part of the problem has been the industry’s own making, in that we have neglected to extol the benefits that we are delivering through genetic improvement in a more tangible transparent and forthright manner. A prerequisite to any robust IP environment is to have fairness for all. However desirable it would be to achieve equality under EU legalisation, it would be a long and challenging journey and even then the outcome would be uncertain. So we must modify the approach.

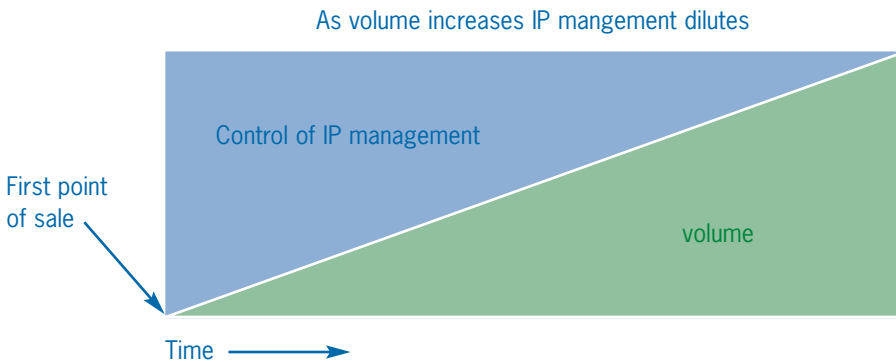




Reason for a new approach

One of the legal challenges arising from the implementation of FSS royalty collection was a court ruling *Schulin*, which decreed that the holder of rights must have evidence of use through the purchase of certified seed of that protected variety. Normal seed distribution is from breeder to wholesaler, to retailer, to grower and in this chain the breeder loses the knowledge of who is using their variety and with it the control of intellectual property becomes diluted. When one loses control of IP one loses effective management and, equally, when we don't have effective management, we lose IP control.

Problem controlling IP



Adopting an area royalty approach

Under the EU implementing rules, (Commission Regulation (EC) No. 1768/95 of 24 July 1995) there are three options for the collection and remuneration for FSS. The first relates to a direct contract between breeder and grower. The second relates to where an agreement exists between breeders and the farmers organisations which implements an agreed rate between the two parties. The third is a default rate: where no agreement between the grower and farmer organisations exist and the rate would then be deemed to be at a sensibly lower rate than the certified rate.

It is understandable in the UK that the industry, keen to secure income on FSS opted, for a collective agreement with the farming unions. The agreement in the UK was well





structured within the BSPB and the NFU and has served the industry well. However, experience has shown over time that the system is far from secure and evasion, through mis-declaration and blatant non-compliance, is costing the industry dearly. Accepting that the current system has delivered a cost effective collection bringing in much necessary funds, the industry is still short of the vital piece of information – knowing the individuals that are behind certified seed and benefiting from the IP.

This system however does operate well within the larger cereal crop sectors but is less good in the minor crops or indeed oilseed rape.

With oilseed rape, the FSS rate has been agreed at 46% of the weighed average of the certified seed but of this it is estimated that the industry is only collecting just over a third. So the shortfall is very significant. With perhaps less than 10,000 significant oilseed growers in the UK, rapeseed marketers could consider the application of different approaches to royalty collection opting for a more equitable and more transparent mechanism such as a royalty area collection.

Clearly, a contract between breeder and grower will provide traceability of users of IP which is often currently missing from existing systems. Under a contract approach breeders will be provided with the burden of proof of who has bought certified seed of their protected varieties and subsequently who could be users of FSS of the same variety.

Operating a contract approach may be more burdensome but it does provide the breeder with the information regarding the user and this is pre requisite for a robust system.

Structuring a scheme on an area basis allows the opportunity for the breeder to introduce a single unified royalty rate which can be applied on the area established as opposed to having royalty carried on the seed cost. In so doing we have moved the concept of a seed royalty to a generic value. This is a transparent approach

Drivers for change

- Distortion of front-end royalty
- Two tier royalty system
- Sensibly lower – 50%
- Evasion and fraud
- Lower seed rates
- Less certified
- Losing income





and with its wider adoption could mean that growers may begin to appreciate more the improvements emerging from breeding programmes and evaluate them better. Indeed, genetic value should be expressed as an input cost in the same way as fertilisers and sprays. This is not apparent or possible under the existing system.

Declaring royalty on an area basis publicises the attributed value. To do so in a more transparent and open manner will help re-connect plant breeders with all stakeholders. Plant breeders then become directly answerable to the growers and stakeholders for their royalties.

This direct approach allows for a more dynamic relationship with the grower allowing such things as a technical exchange and development of knowledge for the benefit of all. Breeders will then be able to communicate more effectively the value and benefit of new varieties directly with users and potential new users.

Deliverables/Benefits

 <p>BREEDER</p>	<ul style="list-style-type: none"> • Better IP management • Not volume related • Improves income • Values genetics
 <p>MERCHANT/ SEED PROCESSOR</p>	<ul style="list-style-type: none"> • Better parity with FSS • Extol quality and service • Increases volume • Targets assurances
 <p>GROWER</p>	<ul style="list-style-type: none"> • Tangibly values genetic benefits • Promotes innovation • More dynamic relationship with breeder





Royalty Area Collection (RAC) in operation

A new approach in operation in the UK is the Royalty Area Collection scheme pioneered by Senova in Cambridge and now being adopted by two private businesses namely Wherry & Son for winter beans and Dalton Seeds for a pea variety. Now in its third season, the RAC is attracting wider interest in the UK and elsewhere. However, lessons learnt have shown that there is a narrow line between compliance and a burdensome bureaucracy, so steps are now in place to simplify the contract exchange.

In essence the RAC is based on a contractual framework initiated through a condition of sale and attached agreements between the seed distributor and growers. The scheme in the UK has been administered under the auspices of the BSPB with the unified royalty rate being invoiced directly to the grower against their established area declaration. Under the RAC, there are rights of inspection and all records must be maintained by the grower. To support the understanding of these arrangements each certified seed bag carries a bag tag which reinforces the obligations. The RAC approach has been welcomed by the seed distributors as it gives them greater economic parity to compete with FSS and allows the seed processor to concentrate on selling and promoting the assurances behind certified seed. While simplistic in approach, its implementation has not been without problem and it requires focus and continual communication, education and enforcement.

Clearly the scheme provides better market intelligence and with a specific software programme now being developed it will allow a more accurate year on year monitor to take place and it should go without saying that if Daltons, Senova and Wherry's improve their management of IP, then they will improve their profitability.

Details of Senova RAC can be found at www.senova.uk.com





The three levels of activity which will help to change the established mindset.

ENFORCE

IP are your rights.
Protect, manage and enforce.
Abuse of IP is a crime.

EDUCATE

Educate all stakeholders and influencers on the value of plant breeding.

EVOLVE

Experiment with new approaches.
Use contract law alongside PBR.
Develop strategic alliance "pull through", value share, traceability etc.

Questions for a forum

If as an industry we wish to move to a better IP environment, then it would be helpful to collate questions, problems and possible solutions and for these to be shared for collective consideration. Perhaps this could be created under the European Seed Association, but to get you thinking here are some ideas:

- Various countries operate quality assurance schemes. Should grain produced from FSS on which royalty has not been paid qualify for assurance?
- Europe offers single farm payments system with compliance and good farm practice standards. Should payment be made on crops where royalty has not been paid?
- Should it be compliant that the grower provides evidence that levies on FSS have been paid?
- Consumers now demand greater governance and greater provenance especially for foods. Should there then be more diligent testing on material produced from FSS, for instance Erucic acid in oilseed rape.

What questions would you like to post?

Let me have your suggestions at chris@greenresources.co.uk





Growers understand breeding, do they understand plant breeders rights?

The plant breeding industry is dynamic and each year brings forward new improved varieties across a diverse crop species. Growers readily adopt these varieties and benefit from the genetic improvements. Generally they understand what the plant breeder is endeavouring to achieve but they may not always understand their applied science and technology that goes with the activity. But do they fully understand plant breeders' rights and the purpose behind this legislation? The focus of plant breeding companies and organisations has tended to be to extol the activities of plant breeding rather than promote themselves. Perhaps it would be worthwhile shifting the focus so that growers and stakeholders not only had a better appreciation of the risks, technical and financial, and the challenges of attaining a viable return on investments.

As an industry, perhaps we should consider stronger branding of PBR, with a protected image and a clear statement that can appear on all certified seed bags and documentation. Canada has recently embarked on a promotion on certified seed and it is well worth visiting the web site www.csta.ca which may stimulate ideas. The adage here is that value is enhanced by strong branding.

An important aspect to remember is that the RAC is a relatively new scheme and must be regarded as a first model for a new approach for royalty collection and management. In this respect, it will serve as a prototype and can be expected to evolve. Gaining critical mass in its use will speed this process of evolution and perhaps stimulate other viable options.

Green Resources is an independent consultancy and we will be pleased to have any feedback on this article or experiences that can be shared with others.



For further information relating to aspects of RAC, please go to: www.greenresources.co.uk follow the presentations link and look at: 'Royalty Area Collection – A contract based approach to better IP management.' 'Devaluing a new Variety' and www.senova.uk.com and follow the link to presentations 'Winter Oats – RAC'

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