SUSTAINABLE STORAGE OF GRAINS
BY IMPLEMENTING A NOVEL PROTECTANT
AND A VERSATILE APPLICATION TECHNOLOGY

D4.10. Report on Business Models
novIGRain

Report on Business Models	
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1 Introduction

1.1 Background

The European Union has invested significantly in expanding storage capacity for cereals, oilseeds, and protein crops in recent years. However, increased capacity alone has not resolved persistent vulnerabilities in the grain supply chain. Many regions still face the risk of storage shortages during years with unexpected logistical disruptions. At the same time, attention is shifting from capacity to quality, specifically, the ability to prevent post-harvest losses and preserve the safety and marketability of stored grain.

Losses during storage are often driven by pest infestations, mould development, and poor handling practices, which together contribute to reduced grain volumes, downgraded quality, and in some cases, non-compliance with food safety standards. These risks are amplified by a growing dependency on a narrow set of pest control solutions. As EU regulations continue to phase out many commonly used chemical treatments and as resistance to remaining active substances increases, the grain storage sector is left with a shrinking toolbox for grain protection.

Existing treatment strategies such as liquid insecticides (e.g. deltamethrin) or fumigation are becoming less reliable due to regulatory constraints, resistance development, and operational complexity. Most are single-mode solutions that are either overused or poorly adapted to evolving industry needs. As a result, there is an urgent demand for innovative, effective, and sustainable grain protection approaches that not only meet regulatory and environmental expectations but also support diverse storage practices across farms, cooperatives, and commercial facilities.

However, technological innovation alone is not sufficient. New products and application methods must be matched by suitable business models that enable their uptake and use in real-world conditions. In practice, this means addressing challenges such as affordability, access to equipment, service availability, regulatory compliance, and logistical feasibility. From smallholder farmers to large-scale operators, the grain storage actors require solutions that are not only safe and effective but also economically viable and operationally practical within their specific contexts.

This report responds to that challenge by exploring how emerging grain protection technologies, developed within the NovIGRain project, can be supported through innovative business models. Drawing on input from the project's research consortium, a portfolio of seven business models has been developed, each representing a different route to commercialisation. These models aim to test how novel solutions, such as insect growth regulators and ultra-low volume (ULV) application technology, can be positioned for meaningful adoption, scale, and long-term impact within the grain protection sector.

2 Methodology

2.1 Business Model Development

The design of the business models in this report draws directly on the internal expertise of the NovIGRain consortium. With members covering key parts of the grain protection value chain including insecticide production (Bábolna Bio, Hungary), application technology

development and insecticide distribution (SOJAM, France), grain trading and storage (UBM, Hungary), pest resistance research (CARC, Czech Republic), and regulatory aspects (MAXILINE and Linge, Belgium and the Netherlands) the project benefits from a combination of practical, commercial, and scientific knowledge across multiple regions and market contexts.

Throughout the project's internal meetings and workshops, partners shared insights on the commercial potential, application challenges, and market positioning of the new S-methoprene-based insecticide and its application technology. These structured discussions served as the foundation for this deliverable, which consolidates those diverse perspectives into a set of seven business models representing distinct pathways to market.

The models vary in their degree of novelty, with some reflecting well-established value delivery formats and others exploring less conventional approaches. By including this range, this report aims to evaluate these alternatives using the real-world insights of experienced stakeholders.

The assessment used in this study allows experts to go beyond quantitative data collection. The experts are asked to reflect on why certain approaches are more viable in the current grain protection landscape and under what conditions less conventional ones could gain traction. This opens the possibility of identifying barriers to adoption, missing elements or contextual factors (e.g. service infrastructure, user familiarity, trust) that influence the success of a model. In this way, the process not only distinguishes promising options but also generates practical insights for adapting or improving innovative models to better fit market realities.

2.2 Evaluation Framework

Due to the absence of detailed market and cost data given the development stage of NovIGRain innovations, a quantitative business case comparison between models is not feasible. Instead, this evaluation relies on expert perception and qualitative judgment using reference criteria, which is recognised as a widely used and accepted practice in business model evaluation, especially when empirical data is limited. According to Gilsing et al. (2022), expert judgment is among the most frequently used methods for assessing business model performance in early stages, as it leverages the knowledge and insight of stakeholders or specialists to estimate the likelihood of success and suitability of different models. Additionally, multi-criteria analysis methods are often applied to enable structured, criteria-driven comparisons of business models based on qualitative and subjective metrics, facilitating a reasoned and transparent decision-making process even in the absence of quantitative data.

To enable a consistent and meaningful comparison, five core criteria were used to evaluate each business model:

1. **Quality of Value Proposition**: The clarity and persuasiveness with which a model addresses a recognised need or market problem directly align with the Value Proposition dimension found in academic business model evaluation frameworks and performance indicator catalogues (van de Ven et al., 2023). This type of assessment

ensures the model's relevance and effectiveness, which are consistent with evaluation criteria used in international frameworks such as the OECD (2019).

2. **Feasibility**: The likelihood that a model can be implemented, considering technical, regulatory, logistical, and behavioural constraints, is a central aspect of established business model evaluation methods. Gilsing et al. (2022) highlight the necessity of conducting a viability and feasibility analysis to ensure a model can move from design to practical implementation.
3. **Scalability**: The potential for a model to expand across different contexts, markets, or user segments reflects a business model's growth and adaptability, dimensions highlighted by both academic research and performance assessment literature (van de Ven et al., 2023). Scalability is also identified as a criterion in framework proposals for enterprise model evaluation (Van Belle, 2006).
4. **Innovativeness**: The extent to which a model departs from conventional practice and introduces novel mechanisms or partnerships is frequently cited as a core evaluation criterion, noted as uniqueness or novelty in systematic reviews and conceptual frameworks for business model assessment (Alexa, 2014; van de Ven et al., 2023).
5. **Strategic Fit to Industry Needs**: How well a model responds to current sectoral pressures and trends such as regulatory changes and operational constraints as well as reflects the pragmatic and environmental fit, both of which are emphasized in established evaluation frameworks (Van Belle, 2006; OECD, 2019; van de Ven et al., 2023).

These criteria were presented to the participants in an extended format to guide their responses and ensure that the evaluation was accurate and consistent. The extended descriptions and the full survey are provided in Appendix.

All models were evaluated using the same survey tool, which was designed to gather structured feedback from experts through a standardised Likert-scale scoring system. Each criterion was scored independently on a 5-point scale, where 1 indicated a very low rating and 5 indicated a very high rating. Respondents were also invited to provide qualitative comments to explain or elaborate on their scoring, enabling a deeper understanding of the rationale behind the ratings.

The evaluation was carried out in two rounds:

- **Round 1** involved 10 experts from within the NovIGRain research consortium as well as targeted external experts from the broader NovIGRain network. These participants included technical developers, commercial actors, researchers, and regulatory specialists.
- **Round 2:** focused on gathering insights from a wider professional audience during the Annual Biocontrol Meeting 2025 (ABIM), one of the key international events in the biological control and crop protection sector. An interactive poster was used to guide discussions and prompt feedback from a diverse range of participants, including representatives from biocontrol companies, grain storage managers, regulatory agencies and distributors. Conversations were informal and exploratory, aimed at capturing overall impressions and high level reactions to the NovIGRain models rather

than detailed technical assessments. This round provided valuable external perspectives and helped to validate earlier findings in a broader industry context.

In the first round members of the NovIGRain consortium and experts from broader network assessed all business models using the reference criteria, providing both quantitative scores and qualitative comments. This was followed by targeted interviews with the experts to further clarify their feedback, explore reasoning behind their assessments, and identify any gaps or contradictions.

The second round combined qualitative reactions gathered from participants at the ABIM with quantitative scoring of the shortlisted business models. Using the same criteria as in the earlier rounds, participants rated the models on a scale from very bad to very good. The discussions at ABIM added a more intuitive, perception-based dimension to the evaluation, reflecting how the models resonated with practitioners in the wider biocontrol community.

3 NovIGRain Business Models

3.1 Model 1: B2B Bundled Service Model (Large-Scale Buyers)

This model is designed around the operational needs of large-scale grain storage operators, cooperatives, and industrial farms. While the new IGR insecticide offers a favourable safety profile and ease of use, many of these professional users prefer integrated, reliable solutions that go beyond product delivery alone. For this segment, pest control is a critical logistical function, and the risks associated with improper application such as ineffective control or non-compliance can have significant consequences.

Under this model, the IGR insecticide is sold primarily in bulk, either directly from the manufacturer or through trusted agri-input distributors. The product is bundled with a set of value-added services tailored to the requirements of high-volume users. These may include on-site training of staff, technical guidance, and periodic performance checks. This not only reduces the need for third-party applicators, but also helps ensure that applications are performed consistently, safely, and in compliance with relevant protocols.

This model reflects the widely used approach for selling insecticides in France, where key account management, long-term contracts with large buyers are common. By aligning with these expectations, the model builds customer confidence and strengthens long-term relationships. It also creates opportunities for repeat purchases and higher revenue per client, while reducing the likelihood of misuse through structured support.

This model is particularly attractive to large buyers with internal operational capacity, such as commercial grain storage companies with in-house maintenance teams, cooperatives managing centralised or shared storage infrastructure, and large-scale farms with dedicated pest control systems.

- Core Concept: IGR insecticide sold in bulk to large clients with bundled services (e.g., training, technical support), enabling compliant application at scale.
- Target Users: Large farms, grain traders, food processors, ports
- Revenue Model: Bulk product sales with optional service bundles

3.2 Model 2: Online & Retail-Oriented Model (Small-to-Medium Buyers)

This model leverages the intrinsic strengths of the new IGR insecticide namely its safety and ease of use to enable direct access for end users without the need for licensed application or specialised training. By positioning the product as a user-friendly solution, it targets smaller-scale farmers and grain storage operators who are typically underserved by conventional pest control service providers.

The IGR insecticide is distributed through established retail and e-commerce channels, including agricultural supply stores, farmer cooperatives, and online platforms. This decentralised distribution approach enables users to purchase the product independently and apply it themselves, using their existing knowledge or with minimal training. Its favourable safety profile low toxicity, no re-entry interval, and straightforward handling requirements supports this level of autonomy without compromising compliance or safety.

To mitigate the risk of incorrect use, the product is accompanied by comprehensive instructional materials. These may include printed labels, pictograms, videos, or mobile-accessible tutorials. Optional digital support, such as helplines, WhatsApp-based guidance, or chatbot assistance, can be integrated to build user confidence and promote correct application practices.

This model mirrors the market logic of other off-the-shelf agricultural inputs such as fertilisers, herbicides, and biostimulants, where users are empowered to make informed purchasing and application decisions independently. It aligns well with ongoing digitalisation trends in agriculture and responds to the need for low-cost, scalable pest control tools among smaller operators.

The model is particularly suitable for small- to medium-sized farms with on-farm grain storage, storage managers operating in regions with limited access to service providers, and digitally savvy farmers who prefer to self-manage post-harvest treatments.

- Core Concept: IGR insecticide sold online or via agri-retailers for self-application, based on its safe and easy-to-use properties.
- Target Users: Farmers, small-to-mid-sized grain storage operators
- Revenue Model: One-time product sales (retail or online)

3.3 Model 3: Direct Product Sale to Pest Controllers

This model places the new insect growth regulator (IGR) insecticide within the established service infrastructure of the pest control industry. Rather than targeting end users directly, the product is marketed and sold primarily to professional pest control operators, agricultural distributors, and agro-dealers, who then incorporate it into their commercial services provided to farmers and grain storage facilities.

Pest controllers already play a central role in many regions, offering trusted expertise, equipment, and application services particularly for fumigation and insecticide treatments. This model builds on that existing trust and infrastructure. The IGR is positioned as a next-generation solution: safer, residue-compliant, and aligned with evolving regulatory expectations. For pest control professionals, it becomes an alternative or complement to their existing range of products such as deltamethrin or phosphine.

Distribution and marketing remain conventional. The product is sold by volume through agro-supply channels, and pest controllers purchase it as part of their operational inventory. Application is carried out by trained professionals, which reduces the risk of misuse and ensures treatment consistency. To support adoption, the IGR manufacturer may provide limited training or promotional material to pest control providers, but no major shifts in infrastructure or business processes are needed.

- Core Concept: Product is sold large volumes via existing channels to pest controllers who apply it as part of their service.
- Target Users: Pest control operators
- Revenue Model: Continuous product sales

3.4 Model 4: Dual-Use Application Platform Model

This model is based on the idea that introducing the new IGR insecticide (S-methoprene-based larvicide) can be accelerated by leveraging existing consumer habits — specifically, the widespread use of deltamethrin adulticides — through a purchase or leasing model for dual-application equipment that simplifies adoption and integrates both products into a single workflow.

The core offering is a dual-mode applicator that enables precise application of both an adulticide (e.g., deltamethrin) and the new IGR in a sequential treatment. This technology lowers the barrier to adoption for the IGR by fitting into familiar practices, while offering enhanced efficacy through integrated pest lifecycle control.

The product(s) are sold through retailers, cooperatives, and direct channels, but the key differentiator is the value of the bundled application system, which positions the IGR as an easy, compatible upgrade rather than a replacement. Instructional content, training, or optional support is provided to ensure proper dual use. It is particularly attractive to:

- Existing deltamethrin users looking to improve efficacy
- Storage managers open to enhanced solutions but hesitant to change practices
- Users interested in technology-enabled application tools

This model encourages cross-sell and product pairing, increasing total product demand with minimal disruption to user behaviour.

- Core Concept: IGR insecticide adoption enabled by dual-application equipment compatible with current adulticide use, allowing seamless integration into existing pest control routines.
- Target Users: Current adulticide users (e.g., deltamethrin), grain storage operators, large farms
- Revenue Model: Product sales (IGR + adulticide); application equipment sale or leasing

3.5 Model 5: On-Demand ULV Equipment Leasing for Small-Scale Users

This model enables proper ULV application of the IGR insecticide among small and medium-sized farms by offering portable, calibrated ULV sprayers through short-term, on-demand

leasing. Equipment is accessed via cooperatives, agri-service providers, or rural platforms, removing the need for ownership or long-term sharing.

The ULV units are designed for precise droplet size and dosing, tailored to the IGR's safety and efficacy profile. Instructions and calibration features are built in or digitally supported. The equipment is bundled with the insecticide, and leasing fees may be offset through minimum purchase commitments or service contracts.

This model addresses several key barriers. Most smallholders cannot afford their own ULV-capable equipment, and improper application compromises product performance. Pest treatments often require timely and accurate measures, which this model supports by providing access to tools without complex cooperative arrangements or ownership responsibilities.

It is particularly attractive to small-scale grain storage operators, cooperatives that offer flexible access to tools, and agri-service hubs serving dispersed users.

- Core Concept: Portable ULV sprayers leased on-demand and bundled with IGR product for accessible, accurate use by small-scale users.
- Target Users: Smallholders, cooperatives, rural service providers, agri-service hubs
- Revenue Model: Short-term leasing + bundled product sales or use-based agreements

3.6 Model 6: Rapid Detection and Customised Treatment via Lab Partnership

This business model connects product use to scientific diagnosis and decision support, enhancing the precision and effectiveness of treatments. In this model, farmers or grain storage operators collect pest samples from their facilities using a simple detection kit or guidance form. These samples are sent to a partner laboratory or university specializing in entomology and pest resistance monitoring.

The lab conducts a rapid identification and analysis, determining the pest species, infestation stage, and environmental conditions. Based on this, a customised treatment recommendation is issued — including the dosage, timing, and IGR formulation suited to the specific infestation.

The IGR product is then ordered or applied based on this recommendation. This could be handled by the product provider or a pest control operator.

This model offers a data-driven, evidence-based approach that appeals to larger operators and high-value supply chains. It may also support monitoring of resistance development, compliance with regulations, and product stewardship.

- Core Concept: Customised IGR treatment based on pest detection and lab recommendations.
- Target Users: Storage operators, large farms, cooperatives
- Revenue Model: Diagnostic fee + linked product sale or subscription

3.7 Model 7: Certification of IGR-Treated Grain for Market Differentiation

This model links IGR use to a grain quality certification system designed to create a market incentive for adoption. If a farmer, storage operator, or cooperative uses the IGR product

according to a prescribed protocol (e.g., application method, timing, dosage), they become eligible for grain certification. This certificate would be issued by an independent authority — likely a university, certifying body, or public agency.

Certified grain could be recognised for:

- Meeting higher food safety standards
- Reducing need for additional fumigation
- Being eligible for preferential purchase by exporters or processors
- Commanding a price premium

To reinforce this model, the project or industry partners would engage with market actors (e.g., exporters, millers, traders) to build recognition and demand for certified grain. This creates a pull-effect where market preference drives IGR use.

Importantly, only users of the IGR product would be eligible for certification, tying product adoption directly to commercial benefit. Over time, certification could influence policy, contract specifications, or compliance requirements.

- Core Concept: IGR-treated grain receives a market-recognised certificate, driving product use through buyer preference.
- Target Users: Cooperatives, exporters, large farms
- Revenue Model: Product sales + certification fee

4 Results

4.1 Comparative Results by Model

4.1.1 Model 1: B2B Bundled Service Model

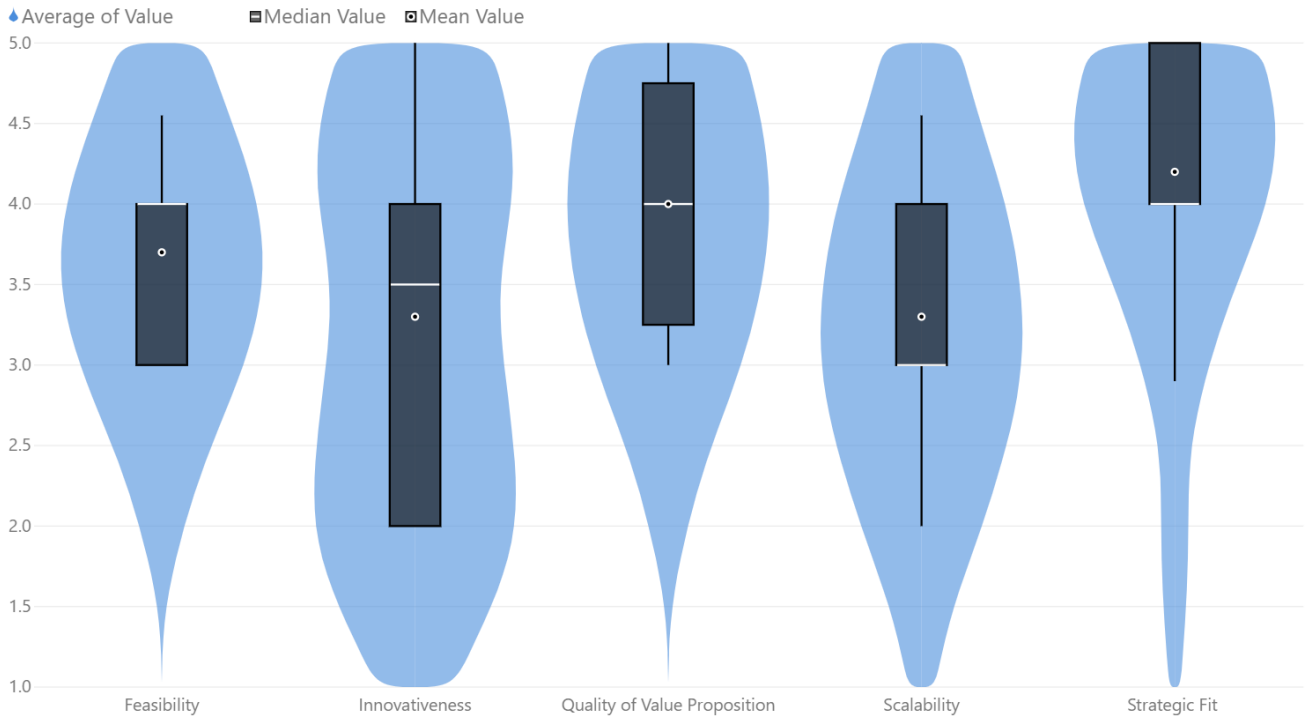


Figure 1. Results Summary for Model 1

The results summarised in Figure 1 suggest that respondents view Model 1 most positively on Strategic Fit and Quality of the Value Proposition, while Feasibility, Scalability and Innovativeness attract more mixed ratings. The mean score for Strategic Fit is 4.2 (with most ratings clustered between roughly 4.0 and 4.8), making it the strongest and most consistently supported dimension. Quality of the Value Proposition follows closely, with a mean of 4.0 and a broader spread (approximately 3.0 to 4.8), indicating general agreement that the value delivery is strong, but with some notable reservations among a minority. Feasibility is mid-high at 3.7 (most ratings between about 3.0 and 4.0), implying that implementation is seen as realistic in the right settings but not universally straightforward. Scalability is more moderate, with a mean near 3.3 (roughly 3.0 to 4.5), suggesting that respondents see growth potential but also expect meaningful barriers as volumes expand. Innovativeness has a similar mean (around 3.3) but the widest distribution (approximately 2.0 to 4.8), signalling disagreement: some respondents rate it as highly novel and valuable pointing out that selling larvicide by itself is a new approach requiring shift in the user's mindset, while others consider this business model less innovative as in some regions (such as France) this is a very common form of value delivery.

The respondents' comments help explain these patterns. The strong Strategic Fit score aligns with repeated remarks about an urgent need for new active ingredients to manage resistance and support integrated pest management (IPM). Several respondents described the IGR as an important addition to IPM because it offers a new tool with low toxicity and potential to improve best practice in stored-grain protection. In other words, the high and tightly grouped strategic-fit ratings reflect a shared belief that the direction is right: large operators are under pressure to manage resistance, improve safety, and meet more demanding environmental expectations, and the proposed model matches those priorities.

The strong but slightly more variable scores for Quality of the Value Proposition indicate that despite generally positive perceptions, some pointed out that in parts of the market, farms or grain traders prefer to leave treatment decisions "at the buyer's discretion" and avoid involvement, which reduces the perceived usefulness of a bundled, service-led proposition for those users. Also, some respondents pointed out that the IGR unlikely to be sufficient to be used alone and may require coupling with an adulticide, which renders bulk sale of larvicide only as an incomplete offer.

The mid-high rating for Feasibility (around 3.7) is best interpreted as "workable, but conditional". Respondents who rated feasibility positively emphasised that many customers already understand the technique and, in some cases, already have necessary ULV application technology, some even saying customers are "waiting for new solutions". This supports the idea that, for well-equipped large operators, the model can be implemented without reinventing operational routines. However, the lower end values are explained by some feasibility constraints. For instance, to properly implement the business model for the users unfamiliar with new product an extensive support system needs to be established where dedicated personnel help the user to fully realise and extract value of the IGR product. This may require additional hiring and staff training as well as creative approaches in terms of interaction with the clients.

The more average score for Scalability (mean around 3.3) fits the comments about what it takes to grow beyond early adopters. Several respondents argued that scaling would likely require facility upgrades, possible shifts towards silo-based procedures, and investment in special application machinery. Others raised a recurring operational concern: scalability is not only about selling more product, but about having enough people with the right expertise to deliver training, guidance and performance checks at scale. The moderate rating therefore reflects a belief that the model can scale, but only with deliberate capability-building (equipment, infrastructure and skilled support capacity).

4.1.2 Model 2: Online & Retail-Oriented Model Cross-Cutting Insights

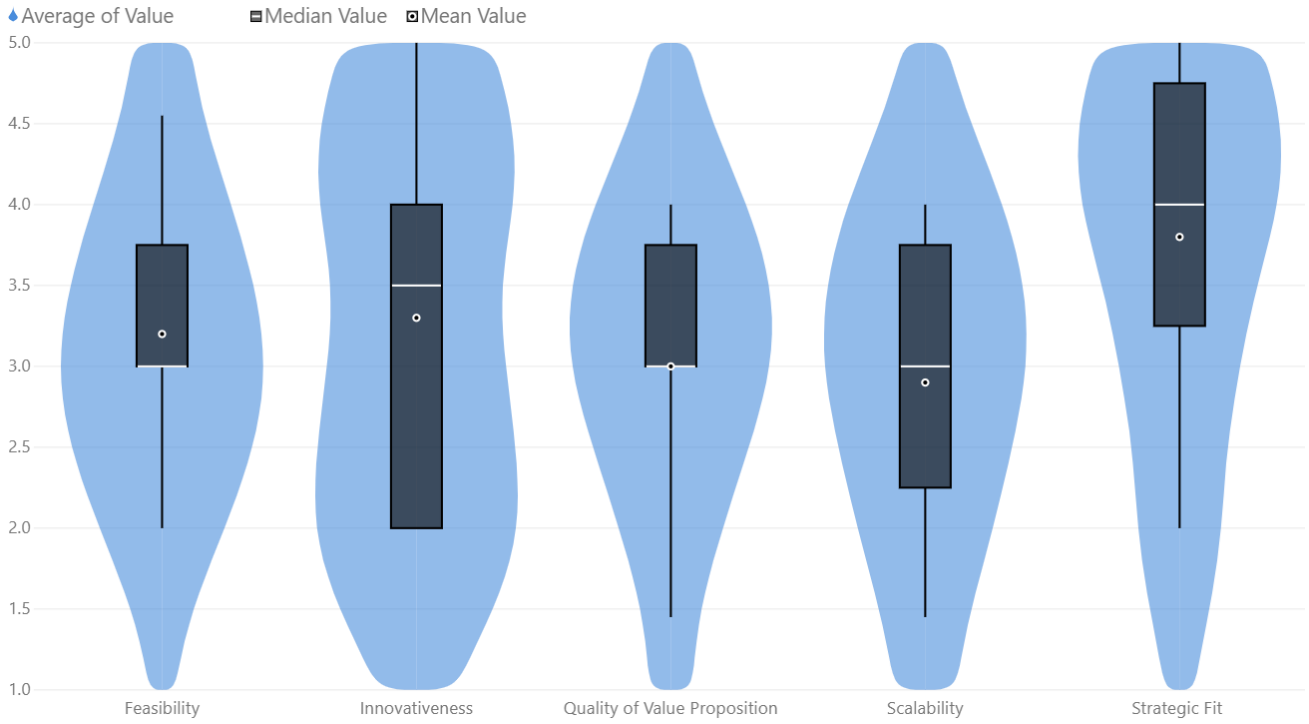


Figure 2. Results Summary for Model 2

The results in Figure 2 indicate a mixed assessment of Model 2. Strategic fit is the strongest dimension, with a mean of 3.8 and most ratings concentrated in the upper range (3.2 to 4.7), although a noticeable lower tail shows that support is not universal. Feasibility sits in the mid-range at 3.2, suggesting the model is seen as workable in principle but constrained by practical conditions. Innovativeness also averages 3.3, yet the distribution is wide, signalling disagreement among respondents about whether this route-to-market is meaningfully innovative or appropriate for the category. Ratings for quality of the value proposition are modest at 3.0, indicating that the offer is viewed as acceptable rather than compelling. Scalability is the weakest area, with a mean of 2.9 and a broad spread, implying persistent doubts about the model's ability to scale smoothly across the intended customer base.

Respondents' feedback helps explain why the ratings cluster in this way and, importantly, points to issues that are primarily business-model related rather than product related. The main constraint on feasibility and scalability is fit with real-world storage conditions among smaller operators. Several respondents stated that the IGR ULV product is effectively "only applicable in silos" and highlighted that many small to mid-size farmers store grain in flat storages, where the treatment approach assumed under self-application can be difficult to

implement consistently. This immediately narrows the practical addressable market and reduces confidence that a decentralised, self-serve model can be rolled out reliably without substantial adaptation for horizontal storage. These concerns align closely with the results lower scores for scalability and the mid-range feasibility assessment: the model may work well for a subset of users (for example, those with smaller vertical silos), but respondents do not see it as universally transferable across the target segment.

A second driver behind the cautious scoring is the perceived loss of control that comes with retail and e-commerce distribution for grain protection products. Respondents pointed to the highly regulated nature of distribution (particularly in France) and expressed concern that a self-service route could increase the risk of incorrect use. This is reflected in the results: while strategic fit remains relatively strong, reflecting that the model broadly aligns with IPM and could reduce the risk of infestation at the earlier stages in the supply chain, there is still notable concern because some respondents see the channel strategy as creating compliance risks. In effect, the model's core strength (easy access and autonomy) is also its core operational risk (reduced oversight of correct use), which respondents believe must be actively mitigated through strong guidance and support.

The modest rating for value proposition is also explained by adoption dynamics in the segment Model 2 targets. Respondents noted that smaller farmers can be conservative and often stick to methods they have already trialled, meaning availability alone may not convert into behaviour change. In addition, some respondents questioned whether an off-the-shelf option would be perceived as sufficiently advantageous given existing reference practices and stressed that uptake will depend heavily on how small-scale users currently operate. This aligns with the chart's "middle" positioning for quality of value proposition: the model is not rejected outright, but respondents are not convinced it will pull demand strongly without trust-building and practical proof of use in common on-farm settings.

Insights from the interviews add an important commercial interpretation of the results: moving into retail and online channels typically places a new product into direct comparison with alternatives, where purchasing decisions are often driven by price, familiarity, and simple heuristics rather than technical differentiation. For a product introduced with a new mode of action and a user base that is not yet fully familiar with how to evaluate it, this route-to-market can make early adoption harder and amplify the risk that customers either choose cheaper familiar options or try the product without sufficient understanding and then disengage. In this sense, the pattern of results (i.e. moderate feasibility and value, weaker scalability, and split innovativeness) supports the view that Model 2 may be a better later-stage expansion strategy rather than the primary launch model. Once awareness, confidence, and basic usage norms are established through more guided channels, retail and e-commerce can then be used to extend reach efficiently among smaller, digitally capable operators. Until then, respondents imply that the model would require unusually strong safeguards for a retail approach, including clear instructions and accessible support mechanisms.

4.1.3 Model 3: Direct Product Sale to Pest Controllers

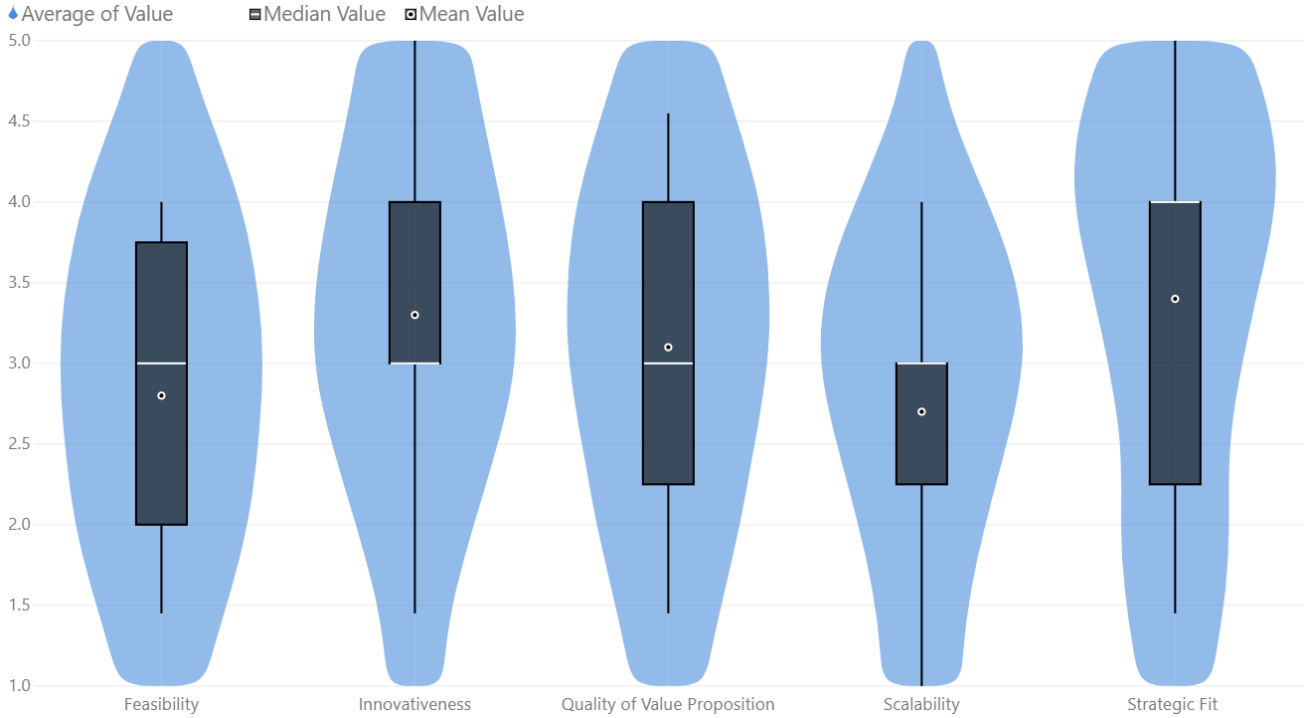


Figure 3. Results Summary for Model 3

The results for Model 3 in Figure 3 show an overall mid-level evaluation, with no dimension clearly outperforming the others by a wide margin. Strategic fit is rated highest (mean of 3.4), but the distribution is broad, indicating that respondents are split on whether the pest-control-service route is the right strategic pathway for this use case. Innovativeness also is at 3.3, again with noticeable spread. Quality of the value proposition is slightly lower at 3.1 and dispersed, suggesting that the perceived benefit depends strongly on context. Feasibility is one of the weaker areas only at 2.8, reflecting practical constraints in execution. Scalability appears similarly constrained, with many responses concentrated around the lower end of the mid-scale, implying limited confidence that this model can be expanded widely without additional effort.

Respondents' comments explain this pattern by pointing to a misalignment between the model's value delivery through professional pest control operators (PCOs) and the specific service scope in grain storage. On the positive side, respondents recognise the core business-model advantage: the approach is familiar for customers ("they call the service provider as usual") and, because application is carried out by trained professionals, it should reduce misuse and support consistent implementation. Several comments frame the value mainly in service contexts PCOs already cover, particularly fumigation and surface/empty-store treatments (e.g., empty silos and premises). This is where the model is seen as a useful complement to existing distribution and service routines, which supports the relatively stronger strategic-fit ratings.

However, respondents repeatedly questioned whether PCOs are a meaningful route for grain treatment itself, noting that PCOs "do fumigation but rarely grain treatment" and that, if the model is "only about grains", it may be "definitely not a good market". This helps explain why value and strategic fit are not higher and why the distributions are wide: where PCOs are

active mainly in fumigation or empty-store work, the model looks relevant; where the expectation is direct grain protectant application, respondents see limited role fit.

Regional market structure also drives the dispersion, with at least one respondent stating that this is “not a market” for such users in France and another describing it as a model that is “not common”, which would naturally reduce both perceived value and scalability in that region.

Feasibility and scalability concerns are also rooted in the operating model of PCOs rather than the product. Respondents raised uncertainty about equipment mobility and highlighted that PCOs “do not buy grain storage machinery”, implying that delivering consistent treatments may depend on the customer site’s installed infrastructure rather than the PCO’s standard kit. Comments also point to the need for specialised training for many applicators and the requirement to “re-write old reflexes”, which aligns with the chart’s weaker feasibility/scalability results: even if the model uses existing service channels, adoption at scale still requires changing established service routines and investing in capability-building across a dispersed provider base.

Overall, the evidence suggests that Model 3 is best positioned as a service channel for contexts where PCOs already operate credibly (fumigation and empty-store/surface treatments), leveraging professional application to improve consistency and reduce misuse. Its limitation is that PCOs are not consistently engaged in direct grain treatments across markets, which reduces both the perceived value proposition and confidence in scalability. As a result, respondents’ ratings converge on a “conditional fit”: strategically sensible in principle, but commercially and operationally narrow unless the service scope is clearly defined around the areas where PCOs already have routine demand and workable equipment.

4.1.4 Model 4: Dual-Use Application Platform Model

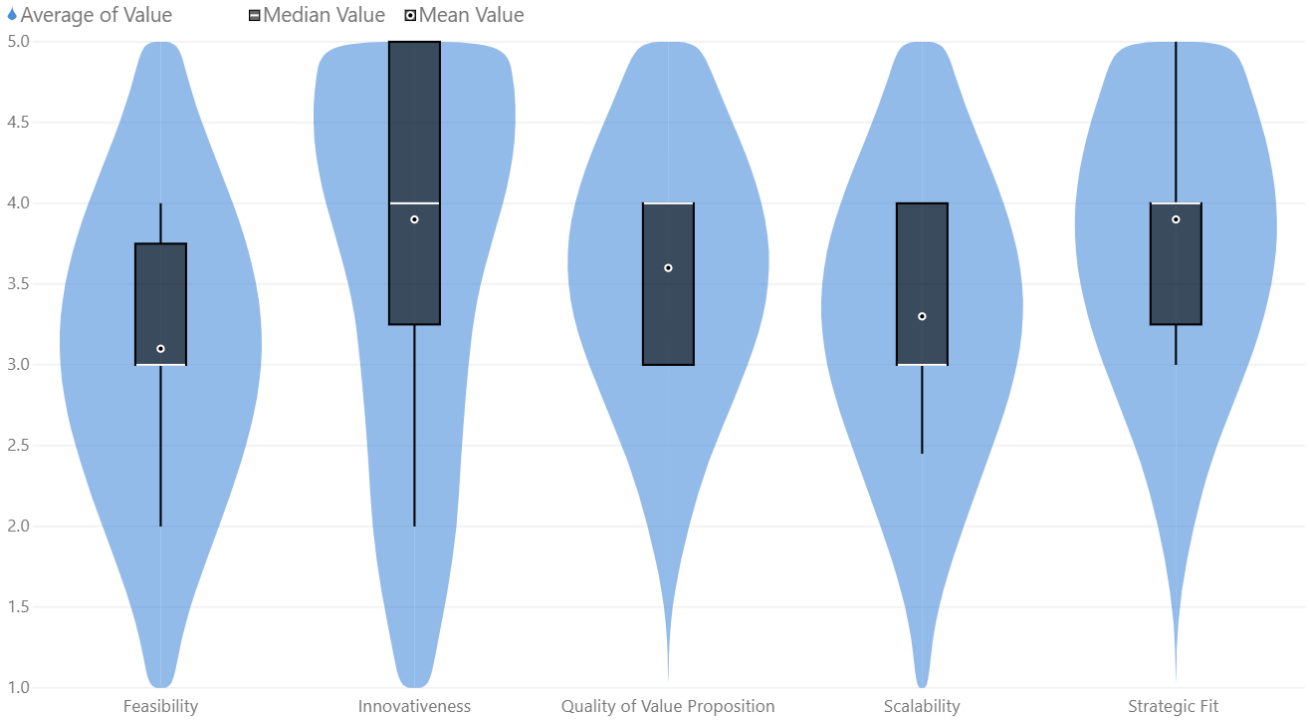


Figure 4. Results Summary for Model 4

The results for Model 4 in Figure 4 show a generally positive view, led by innovativeness and strategic fit. Innovativeness is rated highest (mean of 3.9) and extends up to the top of the scale, indicating that many respondents see the dual-application concept as a meaningful step beyond current practice. Strategic fit is similarly strong (mean of 3.9), with most ratings concentrated between roughly 3 and 5, suggesting respondents broadly agree the model aligns with current direction in grain protection. Quality of the value proposition is solid (mean of 3.6) with a tighter spread than innovativeness, implying relatively consistent recognition of the benefit. Scalability is moderate (mean of 3.3) and feasibility is the weakest dimension (mean of 3.1), indicating that while the model is attractive on paper, its execution and roll-out are expected to be more demanding than the concept itself.

Respondents' comments clarify why Model 4 scores well on value and strategic fit. The core logic (i.e. pairing the IGR with an adulticide through a single workflow) was described as an "ingenious fit" with what users already do, and several respondents explicitly valued the fact that it addresses the full pest life-cycle rather than relying on adult control alone. The model was also seen as reinforcing resistance management objectives, which explains the strong strategic-fit ratings. At the same time, the comments show that the value proposition is not perceived as universal: respondents questioned why the model narrative focuses on deltamethrin only (suggesting the pairing logic should reflect broader adulticide realities) and noted that the business case depends on resistance levels and cost, which naturally moderates value scores even when the concept is liked.

The lower feasibility score is consistent with repeated warnings that the model is execution sensitive. Respondents stressed that success depends on users being "perfectly trained"; without this, "failure is guaranteed". This is a direct challenge for a model whose differentiator is a bundled system rather than a simple product sale: it requires clear instructions, reliable training, and practical support to ensure correct dual use. There is also an operational change embedded in the model (i.e. users must manage two products and accept that the perceived "speed of action" and treatment expectations may shift) so adoption is not straightforward even if the application looks similar. On the positive side, some respondents argued that dual application is not technically very different from single application and that equipment is already installed on many French storage sites; this helps explain why feasibility is not low overall, but it remains the weakest dimension because the model adds process complexity and depends heavily on user capability.

Scalability is rated mid-range because respondents see potential but not broad applicability across all segments. Comments point to leasing as a possible enabler for uptake, but also note that scaling will require "effort, effort, effort", including partnerships and a clear commercial set-up that sells an outcome (improved control via integrated workflow) rather than a standalone product. One respondent explicitly limited the model's reach to large silos with moderate investment and suggested it is less suitable for medium or small operators, which aligns with the results showing only moderate scalability despite strong strategic appeal.

Overall, the results suggest Model 4 is viewed as a strong concept for accelerating adoption because it positions the IGR as a compatible upgrade to established adulticide routines rather

than a disruptive replacement. However, the ratings and comments converge on one condition: performance depends less on the idea of bundling and more on the ability to deliver training, correct use, and a workable equipment proposition (purchase or leasing) in the segments where installed systems and investment capacity exist.

4.1.5 Model 5: On-Demand ULV Equipment Leasing for Small-Scale Users

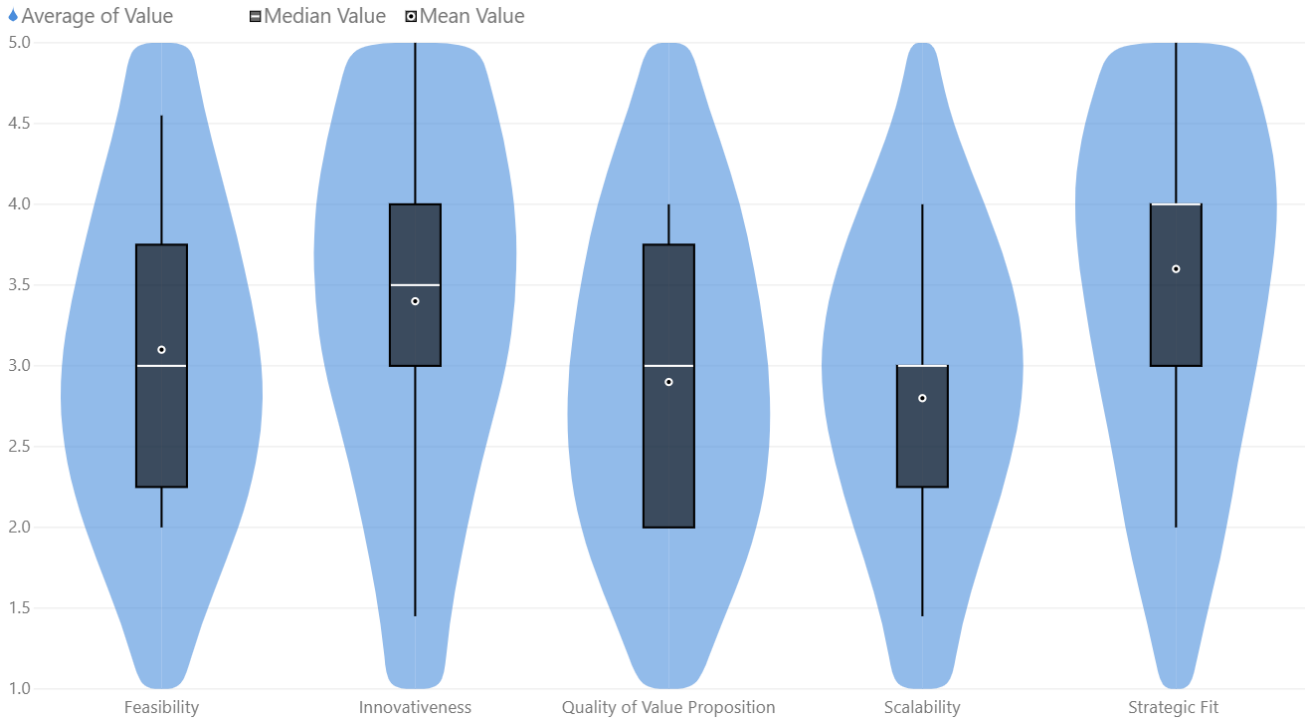


Figure 5. Results Summary for Model 5

The results for Model 5 in Figure 5 suggest a cautious overall assessment, driven mainly by concerns about operational scaling. Strategic fit is the strongest dimension (mean of 3.6), indicating that respondents broadly accept the logic of improving application quality through access to calibrated ULV equipment rather than relying on ad-hoc spraying. Innovativeness is rated moderately (mean of 3.4) with a wide spread, reflecting mixed views on whether short-term leasing is a genuinely new route in this sector. Feasibility sits just above neutral (mean of 3.1), implying that the concept is workable but not straightforward to execute in practice. By contrast, quality of the value proposition is lower (mean of 2.9), and scalability is the weakest area (mean of 2.8), with responses concentrated towards the lower end of the scale, signalling that respondents expect real barriers when attempting to roll this model out broadly.

The qualitative feedback explains why the model's strategic rationale is recognised while its commercial execution is doubted. Respondents liked the principle that leasing reduces effort for users and can make adoption easier, with several describing leasing as a good option and noting that the rental of efficient equipment with support is where the innovation lies. However, the same respondents questioned whether this translates into a strong value proposition for the target segment because demand for ULV access is highly seasonal. Interview feedback and written comments converged on the same issue: many storages need equipment immediately after harvest and may not need it again for a long period, raising scheduling bottlenecks during peak weeks and leaving assets under-utilised for much of the

year (“treatment spread over 2–3 months – what for the rest of the year?”). This seasonality weakens both the economics and the user experience of an “on-demand” offer, which is consistent with the chart’s lower ratings for value and scalability and the repeated questions about profitability and whether leasing is “a small market”.

Scalability concerns are also linked to who would own and operate the leasing fleet. Respondents stressed the need to select competent agri-service providers or cooperatives with technically capable staff, yet interviews highlighted that it is not common practice for cooperatives to buy equipment specifically for grain treatment. This makes the route less immediately credible and increases the perceived challenges in implementation, with some viewing the arrangement as an overcomplication compared with simpler, more familiar approaches. The chart’s mid-range feasibility score aligns with this: the model can function, but only if the right intermediaries invest upfront in multiple machines and can manage booking, maintenance, calibration, and user support at peak times. Finally, respondents flagged a behavioural risk that directly affects perceived value: unless farmers and traders understand how to use the IGR approach appropriately (particularly as a preventive rather than curative measure) poor expectations management can lead to the conclusion that “the product is not effective”, which increases the need for training and support and further raises the complexity of the leasing proposition.

Overall, the results indicate that Model 5 is seen as strategically sensible as a system solution to improve application quality, but it is viewed as difficult to scale due to seasonality of grain storage, coordination constraints, non-standard cooperative practice, and the risk that the model implementation feels more complex than necessary. It appears most viable as a targeted model in contexts where a capable service hub already exists, where users are dispersed enough that ownership is unrealistic, and where the provider can manage peak-demand scheduling and deliver basic training alongside the equipment.

4.1.6 Model 6: Rapid Detection and Customised Treatment via Lab Partnership

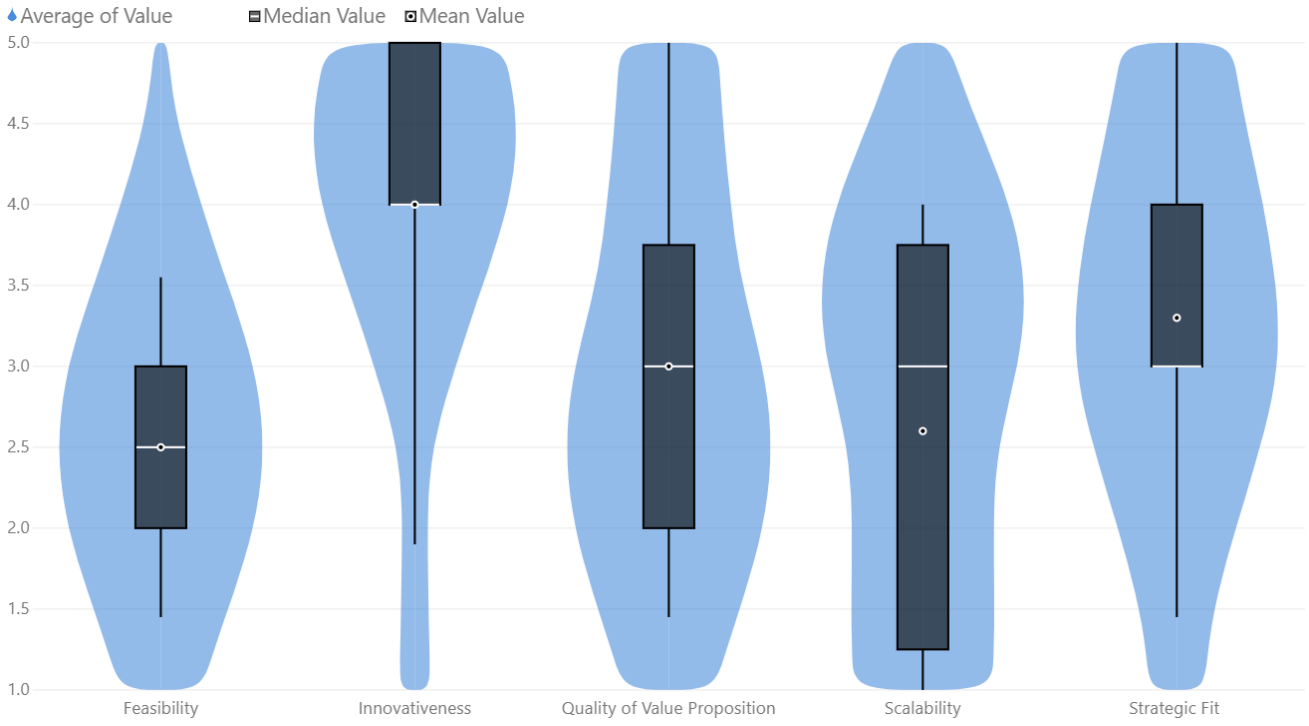


Figure 6. Results Summary for Model 6

The results for Model 6 in Figure 6 show a clear split between perceived novelty and practical implementation. Innovativeness scores highest, with the mean of 4.0 and most responses concentrated towards the top end, indicating broad agreement that this is a genuinely different route-to-market compared with conventional product-led approaches. Strategic fit sits in the mid-range (mean of 3.3), suggesting respondents recognise the logic of tying use to evidence, stewardship, and compliance, but without the same level of consensus as for innovativeness. Quality of the value proposition mean is 3.0 on average, while feasibility is comparatively weak (mean of 2.5) and scalability also trends low-to-mid (mean of 2.6), reflecting limited confidence that the model can be implemented quickly and expanded widely under normal market conditions.

Respondents' comments explain this pattern by separating the conceptual benefit from the operational burden. Several respondents described the approach as the "best solution" because it supports targeted treatment decisions (including whether to treat at all, and which pest stage to address), which fits the model's promise of evidence-based, defensible use. However, they also stated that only a small number of stakeholders would actually adhere to it and that it is effectively restricted to large operators or high-value chains willing to invest time and effort. Feasibility scores are pulled down by the same issue: respondents expect many farms and storage operators to want an immediate answer, making sample collection, shipping, and lab turnaround difficult to reconcile with day-to-day operational urgency (with port settings mentioned as particularly challenging). The model also relies on enabling infrastructure that does not yet exist at scale: a simple detection kit must be developed, approved, remain cost-effective, and integrate smoothly into workflows. These requirements add steps, partners, and lead times, which respondents interpreted as "too complex and too long" for many stakeholders.

The weaker scalability rating follows directly from these constraints. Comments indicate that scaling is likely to remain limited unless participation becomes mandatory or regulated, because the model is a system-level change rather than a marginal tweak to current practice.

Overall, respondents view Model 6 as strategically sensible and highly innovative, but they expect adoption to remain narrow in markets due to time sensitivity, complexity, and the need for new kit-and-lab infrastructure, which are the factors that reduce feasibility and constrain scalability even when the underlying value logic is understood.

4.1.7 Model 7: Certification of IGR-Treated Grain for Market Differentiation

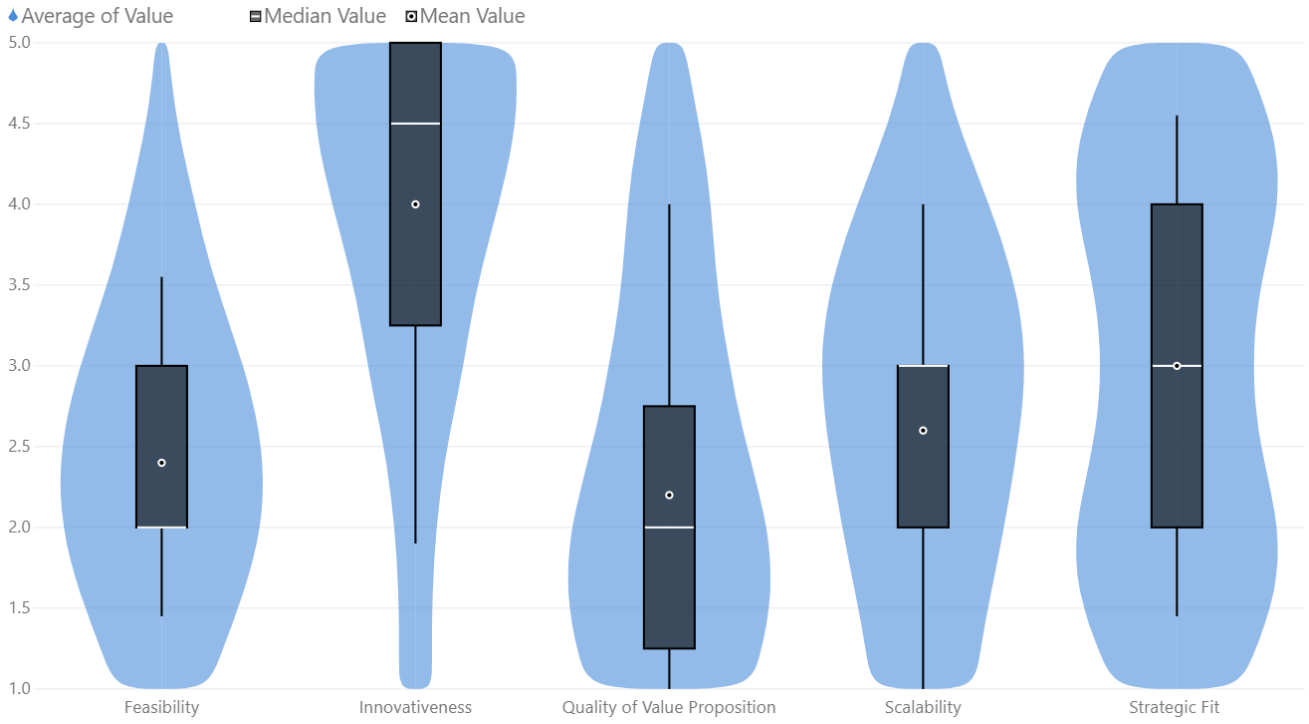


Figure 7. Results Summary for Model 7

The results for Model 7 in Figure 7 show a strong contrast between perceived innovativeness and practical attractiveness. Innovativeness is rated highest, with a mean of 4.0 and a large share of responses concentrated at the top end, indicating that respondents see certification-led market pull as a clear departure from existing go-to-market approaches. Strategic fit is moderate (mean of 3.0), but with a wide spread, suggesting respondents agree with the direction in principle yet differ on whether it can be made to work in their markets. Feasibility is low-to-mid (mean of 2.4), and quality of the value proposition is also low (mean of 2.2) with broad dispersion, implying that many respondents do not see a reliable or immediate commercial benefit for end users. Scalability is similarly modest (mean of 2.6), reflecting concerns about expanding the approach beyond a limited set of early adopters.

The respondent feedback explains why the model is judged as conceptually interesting but operationally and commercially unrealistic. Several respondents noted that certification could be attractive in an ideal scenario, particularly as it supports non-fumigated grain production and reinforces IPM and safety objectives. This aligns with the mid-range strategic-fit score and the high innovativeness rating: the model creates a pull mechanism and shifts incentives away from simply selling inputs. However, respondents repeatedly framed certification and traceability schemes as a burden, describing them as “often seen as a nuisance” and “too constraining” unless food standards make them obligatory. This directly undermines the perceived value proposition: without a clear and dependable premium, many end users are unlikely to accept extra process steps, documentation and audits.

Low feasibility and scalability scores are primarily driven by the governance and coordination requirements inherent in the model. Respondents highlighted that certification would require additional work, a supporting regulatory or legislative framework, and further investment, all of which extend timelines and increase complexity. Concerns were also raised about market-

side adoption: participants such as traders, millers or exporters may be reluctant to invest in building recognition for a new label, and “not all market players adhere to this vision overnight”. Finally, respondents warned about fragmentation risk, noting that competitors may launch their own schemes and that “too many certifications kill certification”. This comment is consistent with the wide spread for strategic fit and value proposition: where respondents believe a single, widely recognised scheme could be established, the model looks plausible; where they expect fragmented standards and weak buyer pull, the model appears both difficult to implement and unlikely to scale.

Overall, Model 7 is viewed as highly differentiating from conventional approaches but too hard/impossible to execute. The experts suggest that its success depends less on end-user willingness and more on whether the market can be aligned around a credible, independent certification with clear buyer demand, recognised standards and manageable administrative burden. Without that ecosystem alignment, respondents expect the model will nor gain traction, which is reflected in the low feasibility, low perceived value, and limited scalability.

4.2 Outside Perspective

The opinions and views presented in Section 4.1 reflect the perspective of experts closely connected with grain protection. To add a broader industry lens and compare expert judgements with wider market sentiment, representatives from the chemical and biocontrol industry attending ABIM 2025 were asked to rate the proposed business models. In total additional 15-17 responses were collected. Their feedback, summarised in Figure 8, shows how participants assessed the models 1-6 displayed on a continuum from “Bad” to “Good”. Each dot represents an individual response, while colours differentiate respondents by region (Northern, Central, Southern, Western, Eastern Europe, and outside Europe).

ABIM visitors generally recognised that all shortlisted models could have a place in the market, but they expected differences in revenue potential and implementation difficulty. This broader perspective was often framed through a commercialisation lens: large biochemical producers emphasised that introducing a new product typically requires a tailored approach by market, rather than a single uniform launch model. In practice, producers described a staged roll-out in which they rely first on their most trusted distributors for initial test shipments and learning, then expand gradually to a wider customer base if performance and acceptance are confirmed. Within this approach, the distributor’s role was repeatedly highlighted as critical, not simply for logistics but for market education, particularly explaining the product’s mode of action and correct application so that its value is properly understood and realised by end users.

In this context, Models 1 and 4 received the most positive ratings in Figure 8, with responses clustering towards the “Good” end of the scale. This pattern suggests these models are widely seen as the most practical and executable pathways, which is consistent with the view that early success depends on proven routes and strong channel partners. Model 1 aligns closely with the “trusted distributor” logic described by larger producers, as it builds on established professional procurement channels and can incorporate structured support. Model 4 similarly benefits from being framed as an upgrade that fits into familiar use patterns, which reduces behavioural barriers at launch and makes it easier for distributors and channel partners to communicate a clear use case.

- Blue – Northern Europe
- Orange – Central Europe
- Red – Southern Europe
- Yellow – Western Europe
- Green – Eastern Europe
- Black – Outside Europe



Figure 8. ABIM visitors' responses

Model 6 attracted significant interest and discussion among ABIM participants, but ratings were mixed, ranging largely from "Bad" to "Average", with only a limited number close to "Good". This distribution indicates that the concept resonates as forward-thinking, yet many respondents remain cautious about practical aspects. In commercial terms, the model demands additional steps, partners, and coordination (sampling, laboratory analysis), which increases both time and complexity. This contradicts with the staged launch approach described by producers, where trusted distributors are used to test and scale a product progressively; the more complex the delivery system, the harder it is to trial quickly and replicate consistently across markets.

Finally, Models 2 and 5 show the most dispersed ratings, with a notable share of responses in the "Bad" and "Average" zones. This spread is consistent with perceptions that these approaches are less conventional or harder to execute reliably. Model 2 relies on decentralised retail and e-commerce access, which can broaden reach but also reduces control over correct use and places the product in direct shelf competition. Model 5, based

on short-term leasing of calibrated ULV equipment, implies coordination, timing, and asset utilisation challenges. From the ABIM visitors' perspective, these characteristics appear to increase perceived implementation risk relative to Models 1 and 4, which more clearly leverage existing commercial structures and can be staged through trusted partners.

Overall, the ABIM 2025 feedback reinforces a central message: while multiple models may be viable in principle, likelihood of short-term implementation is highest for those that combine familiar market mechanisms and partner-led education.

5 General Reflections

Across the seven models, the most consistently positive responses are associated with routes that fit existing procurement and application habits and can be executed through established professional channels. Models that build on familiar B2B buying patterns or integrate into current treatment workflows (i.e. Models 1 and 4) are repeatedly perceived as more implementable because they minimise behavioural change and can be delivered with structured support through known distributor or service structures.

In contrast, models aimed at smaller operators through decentralised access or equipment schemes (Models 2 and 5) are typically seen as viable only in certain contexts and face stronger scepticism on their ability to scale due to variability in storage infrastructure, uneven user capability, and additional practical aspects. The most system-heavy approaches (Models 6 and 7) are viewed as forward-looking but are expected to remain niche unless wider ecosystem conditions are in place, as they introduce additional steps, partners, and lead times that often conflict with the speed of operational decision-making in storage environments.

In terms of assessment criteria, Innovativeness shows the largest variation across the analysed models. Models 6 and 7 are consistently perceived as highly innovative, whereas Models 1–3 tend to be closer to the mid-range because they resemble established market practices. However, higher innovativeness does not translate into higher overall attractiveness: feasibility and scalability generally weaken as models add coordination layers, external partners, or new governance requirements. Feasibility varies the most between models that fit into existing operations (Models 1 and 4, and parts of Models 2 and 3) and models that require new infrastructure, new processes, or new stakeholder behaviour (Models 5–7). Scalability is another major differentiator: it is stronger where the delivery mechanism can be replicated using existing channels, and weakest where utilisation is seasonal and coordination-heavy (Model 5), or where adoption depends on multi-actor alignment and institutional frameworks (Models 6 and 7).

Also, this report highlighted that there is strong convergence between grain-protection experts and the ABIM audience on the models that appear most implementable in the near term. Both NovIGRain experts and ABIM visitors favour Models 1 and 4 as the most practical pathways, reflecting confidence in familiar channel structures and clearer adoption routes. Both also treat Model 6 as attractive but operationally difficult: ABIM participants showed high interest but rated it mainly in the lower-to-middle range, consistent with expert concerns that complexity, turnaround time and coordination reduce feasibility. The main difference lies in

emphasis rather than direction. ABIM participants, especially larger biochemical producers, more often described market entry as a staged commercial roll-out (trusted distributors first, broader expansion later) and highlighted distributor-led education as essential for explaining mode of action and correct use. Experts more frequently anchored their concerns in operational fit (storage type and equipment), service scope limitations, and compliance risks.

Summarising all the inputs, a consistent theme across all respondents is adoption friction and capability building. Respondents repeatedly linked successful implementation to training, clear protocols and support, particularly where the model introduces dual-application system (Model 4) or shifts responsibility to self-application (Model 2). A second theme is operational fit with infrastructure: silo versus flat storage, installed equipment, and the practical ability to apply treatments accurately and consistently were recurring determinants of feasibility and scalability, most visibly for Models 2 and 5. Finally, the third theme concerns governance and compliance: whenever control is decentralised, respondents raised concerns about misuse and residue/compliance risk, while models based on certification or lab-based decision support were challenged by administrative burden, approval requirements and the need for trusted independent oversight.

6 References

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7 Appendices

- Survey

Potential Business Models for Methograin 30 IGR and its application technology

Please review each business model description carefully. These represent potential commercial strategies for bringing a new IGR-based insecticide for grain storage to market. After reading each one, you will be asked to evaluate it across several criteria.

* Required

1. What is your name? *

2. What is your job? *

Model 1: B2B Bundled Service Model (Large-Scale Buyers)

This model is based on the idea that while the new IGR insecticide is safe and easy to apply, **larger-scale clients** — such as commercial grain storage companies, cooperatives, and industrial farms — often prefer integrated solutions that combine product delivery with **application support, equipment access, and service continuity**.

The product is sold **directly or via agri-distributors**, typically in **bulk quantities**, and is **bundled with value-added services** such as leasing of application equipment, on-site staff training, and technical support. This reduces reliance on third-party applicators while ensuring correct and compliant use at scale. The IGR's safety profile makes internal application feasible, but structured support builds trust and mitigates operational risk.

This model mirrors how large ag-input deals are managed today — through **contracted supply, service bundling, and key account relationships**. It is designed to secure repeat purchases, encourage loyalty, and align with the operating models of professional buyers.

It is particularly attractive to:

- Commercial grain storage operators and cooperatives
- Large-scale farms with internal pest control teams
- Buyers seeking bulk discounts and bundled service packages

This model enables deeper market access in high-volume segments and builds long-term relationships, but it is less scalable than retail models due to the need for field support and longer sales cycles.

- **Core Concept:** IGR insecticide sold in bulk to large clients with bundled services (e.g., equipment leasing, training), enabling compliant application at scale.
- **Target Users:** Large farms, storage companies, cooperatives, ports
- **Revenue Model:** Bulk product sales with optional service bundles or leasing agreements
- **Key Strength:** Higher revenue per client, lower misuse risk, strong client retention
- **Potential Limitations:** Slower scalability

3. **Quality of Value Proposition** *

Does the business model bring value to the target market?

- Consider if the main offering matches with **needs of the target market**.
- Does this model meet an **urgent or underserved need**?
- Could it be adopted at a **regional, national, or international level**?

Scoring Guide:

- 1 = Users won't see the point; low appeal or benefit
- 2 = Some users may see a benefit, but most will not be interested
- 3 = Some practical value — useful in specific cases or for some users
- 4 = Strong market potential; aligns well with buyer needs and trends
- 5 = Strongly solves key user problems; brings a lot of value

	1	2	3	4	5
Quality of Value Proposition	◯	◯	◯	◯	◯

4. Please briefly explain your score for this criterion

5. **Feasibility** *

How realistic is it to implement this model with current capabilities and resources?

- Consider technical, regulatory, financial, and organizational barriers.
- Are the tools, partners, and expertise needed already available?
- How much adaptation is required?

Scoring Guide:

- 1 = Major legal, technical, or logistical barriers; highly complex or unlikely to succeed under current conditions
- 2 = Substantial implementation challenges; would require major system changes or high upfront investment
- 3 = Moderate complexity; feasible with effort, partnerships, or gradual rollout
- 4 = Low complexity; could be implemented with existing infrastructure and moderate support
- 5 = Very easy to implement; fits well with existing systems, requires minimal change or resources

	1	2	3	4	5
Feasibility	◯	◯	◯	◯	◯

6. Please briefly explain your score for this criterion

7. **Scalability** *

How easily can the model grow in size, geography, or customer base over time?

- Can it be rolled out beyond pilot sites?
- How replicable is it in other regions or markets?
- Is the cost structure scalable?

Scoring Guide:

- 1 = Hard to scale, dependent on specific conditions
- 2 = Scalable in theory but requires major investment or support to grow
- 3 = Moderate scalability with effort
- 4 = Readily scalable with existing systems and moderate investment
- 5 = Highly scalable with minimal adaptation

	1	2	3	4	5
Scalability	◯	◯	◯	◯	◯

8. Please briefly explain your score for this criterion

9. **Innovativeness** *

How novel, original, or disruptive is this model in the context of pest control and grain storage?

- Does it introduce a **new way of delivering value**?
- Does it use **technology, science, or systems in a creative way**?
- Is it significantly different from what's currently available?

Scoring Guide:

- 1 = Conventional; similar models already exist widely
- 2 = Slight improvement or adaptation of common practices
- 3 = Some innovative elements
- 4 = Innovative approach with significant differentiation
- 5 = Strongly innovative; could shift industry norms

	1	2	3	4	5
Innovativeness	◯	◯	◯	◯	◯

10. Please briefly explain your score for this criterion

11. **Strategic Fit** *

How well does the model align with the current grain protection industry?

- Does it address the **current challenges** in grain protection industry?
- Does it fit to the **future EU vision of grain protection** (i.e. policies and strategies)?
- Does it position the Methograin 30 IGR well for **long-term success**?

Scoring Guide:

- 1 = Does not address key industry challenges
- 2 = Limited relevance to current grain protection needs
- 3 = Some alignment with common grain protection challenges
- 4 = Supports major industry goals like IPM, safety, or compliance
- 5 = Strongly aligned with urgent grain protection issues and trends; enables systemic improvement

	1	2	3	4	5
Strategic Fit	◯	◯	◯	◯	◯

12. Please briefly explain your score for this criterion

Model 2: Online & Retail-Oriented Model (Small-to-Medium Buyers)

This model is based on the idea that the new IGR insecticide is safe, easy to handle, and does not require licensed application, making it suitable for **direct sale and self-application by small-to-medium-scale farmers or storage operators** through **online platforms and agricultural retailers**.

The product is sold via **e-commerce channels, agri-retailers, and farmer cooperatives**, and marketed as a "user-friendly pest control solution" that allows end users to treat their stored grain themselves without relying on external service providers. The IGR's favourable safety profile — such as low toxicity, no re-entry restrictions, and simple application requirements — enables this direct-to-user approach.

Instructional materials (e.g., videos, labels, pictograms) are provided to ensure correct use. Optional **remote support via helpline or chat**, as well as **digital resources** such as mobile apps or WhatsApp tutorials, may be offered to improve confidence and compliance. This model mirrors how many fertilizers, herbicides, or biostimulants are sold today — as **off-the-shelf solutions with user autonomy**.

It is particularly attractive to:

- Small-to-medium-sized farmers with on-farm storage
- Storage managers in low-service or remote areas
- Tech-savvy users who prefer self-service via digital channels

This model allows **broad and fast market penetration**, and may be the most scalable option if the product is designed for minimal risk and ease of use.

- **Core Concept:** IGR insecticide sold online or via agri-retailers for self-application, based on its safe and easy-to-use properties.
- **Target Users:** Farmers, small-to-mid-sized grain storage operators
- **Business Model:** Operating product sales (retail or online)

13. **Quality of Value Proposition** *

Does the business model bring value to the target market?

- Consider if the main offering matches with **needs of the target market**.
- Does this model meet an **urgent or underserved need**?
- Could it be adopted at a **regional, national, or international level**?

Scoring Guide:

- 1 = Users won't see the point; low appeal or benefit
- 2 = Some users may see a benefit, but most will not be interested
- 3 = Some practical value — useful in specific cases or for some users
- 4 = Strong market potential; aligns well with buyer needs and trends
- 5 = Strongly solves key user problems; brings a lot of value

	1	2	3	4	5
Quality of Value Proposition	◯	◯	◯	◯	◯

14. Please briefly explain your score for this criterion

15. **Feasibility** *

How realistic is it to implement this model with current capabilities and resources?

- Consider technical, regulatory, financial, and organizational barriers.
- Are the tools, partners, and expertise needed already available?
- How much adaptation is required?

Scoring Guide:

- 1 = Major legal, technical, or logistical barriers; highly complex or unlikely to succeed under current conditions
- 2 = Substantial implementation challenges; would require major system changes or high upfront investment
- 3 = Moderate complexity; feasible with effort, partnerships, or gradual rollout
- 4 = Low complexity; could be implemented with existing infrastructure and moderate support
- 5 = Very easy to implement; fits well with existing systems, requires minimal change or resources

	1	2	3	4	5
Feasibility	◯	◯	◯	◯	◯

16. Please briefly explain your score for this criterion

17. **Scalability** *

How easily can the model grow in size, geography, or customer base over time?

- Can it be rolled out beyond pilot sites?
- How replicable is it in other regions or markets?
- Is the cost structure scalable?

Scoring Guide:

- 1 = Hard to scale, dependent on specific conditions
- 2 = Scalable in theory but requires major investment or support to grow
- 3 = Moderate scalability with effort
- 4 = Readily scalable with existing systems and moderate investment
- 5 = Highly scalable with minimal adaptation

	1	2	3	4	5
Scalability	◯	◯	◯	◯	◯

18. Please briefly explain your score for this criterion

19. **Innovativeness** *

How novel, original, or disruptive is this model in the context of pest control and grain storage?

- Does it introduce a **new way of delivering value**?
- Does it use **technology, science, or systems in a creative way**?
- Is it significantly different from what's currently available?

Scoring Guide:

- 1 = Conventional; similar models already exist widely
- 2 = Slight improvement or adaptation of common practices
- 3 = Some innovative elements
- 4 = Innovative approach with significant differentiation
- 5 = Strongly innovative; could shift industry norms

	1	2	3	4	5
Innovativeness	◯	◯	◯	◯	◯

20. Please briefly explain your score for this criterion

21. **Strategic Fit** *

How well does the model align with the current grain protection industry?

- Does it address the **current challenges** in grain protection industry?
- Does it fit to the **future EU vision of grain protection** (i.e. policies and strategies)?
- Does it position the Methograin 30 IGR well for **long-term success**?

Scoring Guide:

- 1 = Does not address key industry challenges
- 2 = Limited relevance to current grain protection needs
- 3 = Some alignment with common grain protection challenges
- 4 = Supports major industry goals like IPM, safety, or compliance
- 5 = Strongly aligned with urgent grain protection issues and trends; enables systemic improvement

	1	2	3	4	5
Strategic Fit	◯	◯	◯	◯	◯

22. Please briefly explain your score for this criterion

Model 3: Direct Product Sale to Pest Controllers

In this model, the new insect growth regulator (IGR) insecticide is sold through **conventional agricultural input channels —** including pest control operators, agro-dealers, and agricultural distributors. These pest control providers are the key customers, and they are responsible for product storage, marketing, and application for end users such as farmers or grain storage operators.

Pest controllers are already trusted by many farmers and grain storage managers, so the model builds on their role to handle the application of pest control treatments. The IGR is promoted as a safer, more sustainable, and residue-compliant alternative to traditional fumigants or contact insecticides.

This business model relies on existing practices, it offers limited control over how the product is applied or positioned in the market. The company behind the IGR product may provide marketing and training support to pest controllers to ensure awareness and proper usage, but no additional services or structures are required.

- **Core Concept:** Product is sold per unit via existing channels to pest controllers who apply it as part of their service.
- **Target Users:** Pest control operators, agri-retailers
- **Revenue Model:** One-time product sales (by volume)
- **Key Strength:** Fast to deploy; low operational complexity
- **Potential Limitations:** Commoditised product, limited control over usage quality

23. **Quality of Value Proposition** *

Does the business model bring value to the target market?

- Consider if the main offering matches with **needs of the target market**.
- Does this model meet an **urgent or underserved need**?
- Could it be adopted at a **regional, national, or international level**?

Scoring Guide:

- 1 = Users won't see the point; low appeal or benefit
- 2 = Some users may see a benefit, but most will not be interested
- 3 = Some practical value — useful in specific cases or for some users
- 4 = Strong market potential; aligns well with buyer needs and trends
- 5 = Strongly solves key user problems; brings a lot of value

	1	2	3	4	5
Quality of Value Proposition	◯	◯	◯	◯	◯

24. Please briefly explain your score for this criterion

25. **Feasibility** *

How realistic is it to implement this model with current capabilities and resources?

- Consider technical, regulatory, financial, and organizational barriers.
- Are the tools, partners, and expertise needed already available?
- How much adaptation is required?

Scoring Guide:

- 1 = Major legal, technical, or logistical barriers; highly complex or unlikely to succeed under current conditions
- 2 = Substantial implementation challenges; would require major system changes or high upfront investment
- 3 = Moderate complexity; feasible with effort, partnerships, or gradual rollout
- 4 = Low complexity; could be implemented with existing infrastructure and moderate support
- 5 = Very easy to implement; fits well with existing systems, requires minimal change or resources

	1	2	3	4	5
Feasibility	◯	◯	◯	◯	◯

26. Please briefly explain your score for this criterion

27. **Scalability** *

How easily can the model grow in size, geography, or customer base over time?

- Can it be rolled out beyond pilot sites?
- How replicable is it in other regions or markets?
- Is the cost structure scalable?

Scoring Guide:

- 1 = Hard to scale, dependent on specific conditions
- 2 = Scalable in theory but requires major investment or support to grow
- 3 = Moderate scalability with effort
- 4 = Readily scalable with existing systems and moderate investment
- 5 = Highly scalable with minimal adaptation

	1	2	3	4	5
Scalability	◯	◯	◯	◯	◯

28. Please briefly explain your score for this criterion

29. **Innovativeness** *

How novel, original, or disruptive is this model in the context of pest control and grain storage?

- Does it introduce a **new way of delivering value**?
- Does it use **technology, science, or systems in a creative way**?
- Is it significantly different from what's currently available?

Scoring Guide:

- 1 = Conventional; similar models already exist widely
- 2 = Slight improvement or adaptation of common practices
- 3 = Some innovative elements
- 4 = Innovative approach with significant differentiation
- 5 = Strongly innovative; could shift industry norms

	1	2	3	4	5
Innovativeness	◯	◯	◯	◯	◯

30. Please briefly explain your score for this criterion

31. **Strategic Fit** *

How well does the model align with the current grain protection industry?

- Does it address the **current challenges** in grain protection industry?
- Does it fit to the **future EU vision of grain protection** (i.e. policies and strategies)?
- Does it position the Methograin 30 IGR well for **long-term success**?

Scoring Guide:

- 1 = Does not address key industry challenges
- 2 = Limited relevance to current grain protection needs
- 3 = Some alignment with common grain protection challenges
- 4 = Supports major industry goals like IPM, safety, or compliance
- 5 = Strongly aligned with urgent grain protection issues and trends; enables systemic improvement

	1	2	3	4	5
Strategic Fit	◯	◯	◯	◯	◯

32. Please briefly explain your score for this criterion

Model 4: Dual-Use Application Platform Model

This model is based on the idea that introducing the new IGR insecticide (S-methoprene-based larvicide) can be accelerated by **leveraging existing consumer habits** — specifically, the widespread use of deltamethrin adulticides — through a **leasing model for dual-application equipment** that simplifies adoption and integrates both products into a single workflow.

The core offering is a **dual-mode applicator**, leased to end users, that enables precise application of both an adulticide (e.g., deltamethrin) and the new IGR in a single or sequential treatment. This technology lowers the barrier to adoption for the IGR by fitting into familiar practices, while offering enhanced efficacy through integrated pest lifecycle control.

The product(s) are sold through **retailers, cooperatives, and direct channels**, but the key differentiator is the **value of the bundled application system**, which positions the IGR as an easy, compatible upgrade rather than a replacement. Instructional content, training, or optional support is provided to ensure proper dual use. It is particularly attractive to:

- Existing deltamethrin users looking to improve efficacy
- Storage managers open to enhanced solutions but hesitant to change practices
- Users interested in technology-enabled application tools

This model encourages cross-sell and product pairing, increasing total product demand with **minimal disruption to user behavior**. The leasing model lowers upfront cost and provides a platform for long-term customer engagement.

- **Core Concept:** IGR insecticide adoption enabled through leasing of dual-application equipment compatible with current adulticide use, allowing seamless integration into existing pest control routines.
- **Target Users:** Current adulticide users (e.g., deltamethrin), grain storage operators, progressive farms
- **Revenue Model:** Product sales (IGR + adulticide); equipment leased free as adoption incentive
- **Key Strength:** Accelerates IGR adoption; builds on existing habits; increases product pair sales
- **Potential Limitations:** Higher capital investment (equipment leasing); need for user training; risk of underutilization if not well supported

33. **Quality of Value Proposition** *

Does the business model bring value to the target market?

- Consider if the main offering matches with **needs of the target market**.
- Does this model meet an **urgent or underserved need**?
- Could it be adopted at a **regional, national, or international level**?

Scoring Guide:

- 1 = Users won't see the point; low appeal or benefit
- 2 = Some users may see a benefit, but most will not be interested
- 3 = Some practical value — useful in specific cases or for some users
- 4 = Strong market potential; aligns well with buyer needs and trends
- 5 = Strongly solves key user problems; brings a lot of value

	1	2	3	4	5
Quality of Value Proposition	◯	◯	◯	◯	◯

34. Please briefly explain your score for this criterion

35. **Feasibility** *

How realistic is it to implement this model with current capabilities and resources?

- Consider technical, regulatory, financial, and organizational barriers.
- Are the tools, partners, and expertise needed already available?
- How much adaptation is required?

Scoring Guide:

- 1 = Major legal, technical, or logistical barriers; highly complex or unlikely to succeed under current conditions
- 2 = Substantial implementation challenges; would require major system changes or high upfront investment
- 3 = Moderate complexity; feasible with effort, partnerships, or gradual rollout
- 4 = Low complexity; could be implemented with existing infrastructure and moderate support
- 5 = Very easy to implement; fits well with existing systems, requires minimal change or resources

	1	2	3	4	5
Feasibility	◯	◯	◯	◯	◯

36. Please briefly explain your score for this criterion

37. **Scalability** *

How easily can the model grow in size, geography, or customer base over time?

- Can it be rolled out beyond pilot sites?
- How replicable is it in other regions or markets?
- Is the cost structure scalable?

Scoring Guide:

- 1 = Hard to scale, dependent on specific conditions
- 2 = Scalable in theory but requires major investment or support to grow
- 3 = Moderate scalability with effort
- 4 = Readily scalable with existing systems and moderate investment
- 5 = Highly scalable with minimal adaptation

	1	2	3	4	5
Scalability	◯	◯	◯	◯	◯

38. Please briefly explain your score for this criterion

39. **Innovativeness** *

How novel, original, or disruptive is this model in the context of pest control and grain storage?

- Does it introduce a **new way of delivering value**?
- Does it use **technology, science, or systems in a creative way**?
- Is it significantly different from what's currently available?

Scoring Guide:

- 1 = Conventional; similar models already exist widely
- 2 = Slight improvement or adaptation of common practices
- 3 = Some innovative elements
- 4 = Innovative approach with significant differentiation
- 5 = Strongly innovative; could shift industry norms

	1	2	3	4	5
Innovativeness	◯	◯	◯	◯	◯

40. Please briefly explain your score for this criterion

41. **Strategic Fit** *

How well does the model align with the current grain protection industry?

- Does it address the **current challenges** in grain protection industry?
- Does it fit to the **future EU vision of grain protection** (i.e. policies and strategies)?
- Does it position the Methograin 30 IGR well for **long-term success**?

Scoring Guide:

- 1 = Does not address key industry challenges
- 2 = Limited relevance to current grain protection needs
- 3 = Some alignment with common grain protection challenges
- 4 = Supports major industry goals like IPM, safety, or compliance
- 5 = Strongly aligned with urgent grain protection issues and trends; enables systemic improvement

	1	2	3	4	5
Strategic Fit	◯	◯	◯	◯	◯

42. Please briefly explain your score for this criterion

Model 5: On-Demand ULV Equipment Leasing for Small-Scale Users

This model enables proper ULV application of the IGR insecticide among small and medium-sized farms by offering **portable, calibrated ULV sprayers** through **short-term, on-demand leasing**. Equipment is accessed via cooperatives, agri-service providers, or rural platforms, removing the need for ownership or long-term sharing.

The ULV units are designed for **precise droplet size and dosing**, tailored to the IGR's safety and efficacy profile. Instructions and calibration features are built in or digitally supported. The equipment is **bundled with the insecticide**, and leasing fees may be offset through minimum purchase commitments or service contracts.

This model addresses several key barriers. Most smallholders cannot afford their own ULV-capable equipment, and improper application compromises product performance. Pest treatments often require timely and accurate measures, which this model supports by providing access to tools without complex cooperative arrangements or ownership responsibilities.

It is particularly attractive to:

- Small-scale grain storage operators
- Cooperatives offering flexible access to tools
- Agri-service hubs serving dispersed users

This model promotes broader adoption of IGR through **safe, consistent ULV application**, while reducing technical and financial barriers.

- **Core Concept:** Portable ULV sprayers leased on-demand and bundled with IGR product for accessible, accurate use by small-scale users.
- **Target Users:** Smallholders, cooperatives, rural service providers, agri-service hubs
- **Revenue Model:** Short-term leasing + bundled product sales or use-based agreements
- **Key Strength:** Enables ULV use at small scale, removes ownership barrier

43. **Quality of Value Proposition** *

Does the business model bring value to the target market?

- Consider if the main offering matches with **needs of the target market**.
- Does this model meet an **urgent or underserved need**?
- Could it be adopted at a **regional, national, or international level**?

Scoring Guide:

- 1 = Users won't see the point; low appeal or benefit
- 2 = Some users may see a benefit, but most will not be interested
- 3 = Some practical value — useful in specific cases or for some users
- 4 = Strong market potential; aligns well with buyer needs and trends
- 5 = Strongly solves key user problems; brings a lot of value

	1	2	3	4	5
Quality of Value Proposition	◯	◯	◯	◯	◯

44. Please briefly explain your score for this criterion

45. **Feasibility** *

How realistic is it to implement this model with current capabilities and resources?

- Consider technical, regulatory, financial, and organizational barriers.
- Are the tools, partners, and expertise needed already available?
- How much adaptation is required?

Scoring Guide:

- 1 = Major legal, technical, or logistical barriers; highly complex or unlikely to succeed under current conditions
- 2 = Substantial implementation challenges; would require major system changes or high upfront investment
- 3 = Moderate complexity; feasible with effort, partnerships, or gradual rollout
- 4 = Low complexity; could be implemented with existing infrastructure and moderate support
- 5 = Very easy to implement; fits well with existing systems, requires minimal change or resources

	1	2	3	4	5
Feasibility	◯	◯	◯	◯	◯

46. Please briefly explain your score for this criterion

47. **Scalability** *

How easily can the model grow in size, geography, or customer base over time?

- Can it be rolled out beyond pilot sites?
- How replicable is it in other regions or markets?
- Is the cost structure scalable?

Scoring Guide:

- 1 = Hard to scale, dependent on specific conditions
- 2 = Scalable in theory but requires major investment or support to grow
- 3 = Moderate scalability with effort
- 4 = Readily scalable with existing systems and moderate investment
- 5 = Highly scalable with minimal adaptation

	1	2	3	4	5
Scalability	◯	◯	◯	◯	◯

48. Please briefly explain your score for this criterion

49. **Innovativeness** *

How novel, original, or disruptive is this model in the context of pest control and grain storage?

- Does it introduce a **new way of delivering value**?
- Does it use **technology, science, or systems in a creative way**?
- Is it significantly different from what's currently available?

Scoring Guide:

- 1 = Conventional; similar models already exist widely
- 2 = Slight improvement or adaptation of common practices
- 3 = Some innovative elements
- 4 = Innovative approach with significant differentiation
- 5 = Strongly innovative; could shift industry norms

	1	2	3	4	5
Innovativeness	◯	◯	◯	◯	◯

50. Please briefly explain your score for this criterion

51. **Strategic Fit** *

How well does the model align with the current grain protection industry?

- Does it address the **current challenges** in grain protection industry?
- Does it fit to the **future EU vision of grain protection** (i.e. policies and strategies)?
- Does it position the Methograin 30 IGR well for **long-term success**?

Scoring Guide:

- 1 = Does not address key industry challenges
- 2 = Limited relevance to current grain protection needs
- 3 = Some alignment with common grain protection challenges
- 4 = Supports major industry goals like IPM, safety, or compliance
- 5 = Strongly aligned with urgent grain protection issues and trends; enables systemic improvement

	1	2	3	4	5
Strategic Fit	◯	◯	◯	◯	◯

52. Please briefly explain your score for this criterion

Model 6: Rapid Detection and Customised Treatment via Lab Partnership

This business model connects product use to **scientific diagnosis and decision support**, enhancing the precision and effectiveness of treatments. In this model, farmers or grain storage operators collect pest samples from their facilities using a **simple field detection kit** or guidance form. These samples are sent to a **partner laboratory or university** specializing in entomology and pest resistance monitoring.

The lab conducts a rapid identification and analysis, determining the pest species, infestation stage, and environmental conditions. Based on this, a **customized treatment recommendation** is issued — including the dosage, timing, and IGR formulation suited to the specific infestation.

The IGR product is then ordered or applied based on this recommendation. This could be handled by the product provider or a licensed pest controller.

This model offers a **data-driven, evidence-based approach** that appeals to larger operators and high-value supply chains. It may also support monitoring of resistance development, compliance with regulations, and product stewardship.

- **Core Concept:** Customized IGR treatment based on scientific pest detection and lab recommendations.
- **Target Users:** Storage operators, large farms, cooperatives
- **Revenue Model:** Diagnostic fee + linked product sale or subscription
- **Key Strength:** Precision use; scientific credibility; reduced misuse
- **Potential limitations:** Coordination complexity; [illegible]

53. **Quality of Value Proposition** *

Does the business model bring value to the target market?

- Consider if the main offering matches with **needs of the target market**.
- Does this model meet an **urgent or underserved need**?
- Could it be adopted at a **regional, national, or international level**?

Scoring Guide:

- 1 = Users won't see the point; low appeal or benefit
- 2 = Some users may see a benefit, but most will not be interested
- 3 = Some practical value — useful in specific cases or for some users
- 4 = Strong market potential; aligns well with buyer needs and trends
- 5 = Strongly solves key user problems; brings a lot of value

	1	2	3	4	5
Quality of Value Proposition	◯	◯	◯	◯	◯

54. Please briefly explain your score for this criterion

55. **Feasibility** *

How realistic is it to implement this model with current capabilities and resources?

- Consider technical, regulatory, financial, and organizational barriers.
- Are the tools, partners, and expertise needed already available?
- How much adaptation is required?

Scoring Guide:

- 1 = Major legal, technical, or logistical barriers; highly complex or unlikely to succeed under current conditions
- 2 = Substantial implementation challenges; would require major system changes or high upfront investment
- 3 = Moderate complexity; feasible with effort, partnerships, or gradual rollout
- 4 = Low complexity; could be implemented with existing infrastructure and moderate support
- 5 = Very easy to implement; fits well with existing systems, requires minimal change or resources

	1	2	3	4	5
Feasibility	◯	◯	◯	◯	◯

56. Please briefly explain your score for this criterion

57. **Scalability** *

How easily can the model grow in size, geography, or customer base over time?

- Can it be rolled out beyond pilot sites?
- How replicable is it in other regions or markets?
- Is the cost structure scalable?

Scoring Guide:

- 1 = Hard to scale, dependent on specific conditions
- 2 = Scalable in theory but requires major investment or support to grow
- 3 = Moderate scalability with effort
- 4 = Readily scalable with existing systems and moderate investment
- 5 = Highly scalable with minimal adaptation

	1	2	3	4	5
Scalability	◯	◯	◯	◯	◯

58. Please briefly explain your score for this criterion

59. **Innovativeness** *

How novel, original, or disruptive is this model in the context of pest control and grain storage?

- Does it introduce a **new way of delivering value**?
- Does it use **technology, science, or systems in a creative way**?
- Is it significantly different from what's currently available?

Scoring Guide:

- 1 = Conventional; similar models already exist widely
- 2 = Slight improvement or adaptation of common practices
- 3 = Some innovative elements
- 4 = Innovative approach with significant differentiation
- 5 = Strongly innovative; could shift industry norms

	1	2	3	4	5
Innovativeness	◯	◯	◯	◯	◯

60. Please briefly explain your score for this criterion

61. **Strategic Fit** *

How well does the model align with the current grain protection industry?

- Does it address the **current challenges** in grain protection industry?
- Does it fit to the **future EU vision of grain protection** (i.e. policies and strategies)?
- Does it position the Methograin 30 IGR well for **long-term success**?

Scoring Guide:

- 1 = Does not address key industry challenges
- 2 = Limited relevance to current grain protection needs
- 3 = Some alignment with common grain protection challenges
- 4 = Supports major industry goals like IPM, safety, or compliance
- 5 = Strongly aligned with urgent grain protection issues and trends; enables systemic improvement

	1	2	3	4	5
Strategic Fit	◯	◯	◯	◯	◯

62. Please briefly explain your score for this criterion

Model 7: Certification of IGR-Treated Grain for Market Differentiation

This model links IGR use to a **grain quality certification system** designed to create a market incentive for adoption. If a farmer, storage operator, or cooperative uses the IGR product according to a prescribed protocol (e.g., application method, timing, dosage), they become eligible for **grain certification**. This certificate would be issued by an **independent authority** — likely a university, certifying body, or public agency.

Certified grain could be recognized for:

- Meeting higher food safety standards
- Reducing need for additional fumigation
- Being eligible for preferential purchase by exporters or processors
- Commanding a price premium

To reinforce this model, the project or industry partners would engage with **market actors** (e.g., exporters, millers, traders) to build **recognition and demand for certified grain**. This creates a **pull-effect** where market preference drives IGR use.

Importantly, only users of the IGR product would be eligible for certification, tying product adoption directly to commercial benefit. Over time, certification could influence **policy, contract specifications, or compliance requirements**.

- **Core Concept:** IGR-treated grain receives a market-recognized certificate, driving product use through buyer preference.
- **Target Users:** Cooperatives, exporters, large farms
- **Revenue Model:** Product sales + optional certification fee
- **Key Strength:** Market-driven adoption; long-term positioning
- **Potential Limitations:** Requires system-wide coordination; slow adoption curve; certificate credibility must be built

63. **Quality of Value Proposition** *

Does the business model bring value to the target market?

- Consider if the main offering matches with **needs of the target market**.
- Does this model meet an **urgent or underserved need**?
- Could it be adopted at a **regional, national, or international level**?

Scoring Guide:

- 1 = Users won't see the point; low appeal or benefit
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- 3 = Some practical value — useful in specific cases or for some users
- 4 = Strong market potential; aligns well with buyer needs and trends
- 5 = Strongly solves key user problems; brings a lot of value

	1	2	3	4	5
Quality of Value Proposition	◯	◯	◯	◯	◯

64. Please briefly explain your score for this criterion

65. **Feasibility** *

How realistic is it to implement this model with current capabilities and resources?

- Consider technical, regulatory, financial, and organizational barriers.
- Are the tools, partners, and expertise needed already available?
- How much adaptation is required?

Scoring Guide:

- 1 = Major legal, technical, or logistical barriers; highly complex or unlikely to succeed under current conditions
- 2 = Substantial implementation challenges; would require major system changes or high upfront investment
- 3 = Moderate complexity; feasible with effort, partnerships, or gradual rollout
- 4 = Low complexity; could be implemented with existing infrastructure and moderate support
- 5 = Very easy to implement; fits well with existing systems, requires minimal change or resources

	1	2	3	4	5
Feasibility	◯	◯	◯	◯	◯

66. Please briefly explain your score for this criterion

67. **Scalability** - Model 6 *

How easily can the model grow in size, geography, or customer base over time?

- Can it be rolled out beyond pilot sites?
- How replicable is it in other regions or markets?
- Is the cost structure scalable?

Scoring Guide:

- 1 = Hard to scale, dependent on specific conditions
- 2 = Scalable in theory but requires major investment or support to grow
- 3 = Moderate scalability with effort
- 4 = Readily scalable with existing systems and moderate investment
- 5 = Highly scalable with minimal adaptation

	1	2	3	4	5
Scalability	◯	◯	◯	◯	◯

68. Please briefly explain your score for this criterion

69. **Innovativeness** *

How novel, original, or disruptive is this model in the context of pest control and grain storage?

- Does it introduce a **new way of delivering value**?
- Does it use **technology, science, or systems in a creative way**?
- Is it significantly different from what's currently available?

Scoring Guide:

- 1 = Conventional; similar models already exist widely
- 2 = Slight improvement or adaptation of common practices
- 3 = Some innovative elements
- 4 = Innovative approach with significant differentiation
- 5 = Strongly innovative; could shift industry norms

	1	2	3	4	5
Innovativeness	○	○	○	○	○

70. Please briefly explain your score for this criterion

71. **Strategic Fit** *

How well does the model align with the current grain protection industry?

- Does it address the **current challenges** in grain protection industry?
- Does it fit to the **future EU vision of grain protection** (i.e. policies and strategies)?
- Does it position the Methograin 30 IGR well for **long-term success**?

Scoring Guide:

- 1 = Does not address key industry challenges
- 2 = Limited relevance to current grain protection needs
- 3 = Some alignment with common grain protection challenges
- 4 = Supports major industry goals like IPM, safety, or compliance
- 5 = Strongly aligned with urgent grain protection issues and trends; enables systemic improvement

	1	2	3	4	5
Strategic Fit	○	○	○	○	○

72. Please briefly explain your score for this criterion

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