

**EXHIBIT
PLTF-1160**

From: Nathan Richard Borgmeyer [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C4EFC2A5AE804801B624C591566AA230-BORGMEN]
Sent: 5/3/2017 2:41:56 AM
To: Sandra Wilson - BASF Corporation (sandi.wilson@basf.com) [sandi.wilson@basf.com]
Subject: 2017 Engenia Agroaward draft may 2 2017.docx

Sandi, I did not like the way a lot of Mark had the flow going or many of the sub bullets. I changed it and did a lot of copy / pasting from the marketing award into sections that most closely aligned. I did no formatting, etc.

I left the comms and stewardship sections untouched, please add content and insert where appropriate. I also updated the attachment idea list.

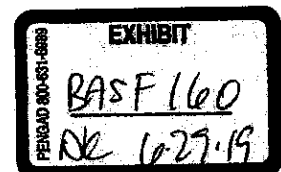
I attached the marketing award app so you can steal any of the graphics you like from it.

When you are done with your edits, please send back to me and cc Jason and ask hif if he has any edits or numbers to add. Please attach any and all items you want me to submit: commercials, pdfs, jpgs, etc.

Please lower the file size where you can so they upload ok.

Thanks, wish us luck!

I will submit Friday.



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2017 APN & Global AgroBusiness Award Application Form

Form Submission Deadline – May 6th 2017

Nominee(s):

- Nathan Borgmeyer (Lead / Submitter) – Engenia Market Manager
- Sandi Wilson – Communications Manager
- John Sabatka – IS Area Manager
- Jason Ward – Sr. Market Manager
- Chad Asmus – Technical Marketing Manager

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Nominated by/Unit: Scott Kay

Location/Extension: APN US Crop

Line Manager: Neil Bentley

Email Address: neil.bentley@basf.com

Title of Project: Engenia herbicide product launch

Description of the innovation/problem solution (problem, solution, origin, novelty, advantage over state of the art, business impact)

Problem:

Of the 80 million soybean acres and 10 million cotton acres in the US, most are planted with Roundup® Ready gene traits, which allows herbicide application to control weeds once the crop is emerged. In 1995, Roundup-ready crops were introduced to the US market that had built-in tolerance to glyphosate (the active ingredient in Roundup) allowing farmers to spray glyphosate in crop to kill the weeds. At one time a powerful tool, exclusive use eventually resulted in many weeds becoming resistant to this herbicide. Today this weed resistance has left many farmers without the ability to effectively control weeds on their farms, thereby lowering net profits due to competition for water and nutrients between the crop and the weeds. On the 80 million acres of soybeans and cotton in 2016, ~45 million ac (stratus glyphosate resistance survey, 2015) of them now have glyphosate resistant weeds, costing farmers an estimated \$2 billion in lost yield due to weed competition with their crops.

Comment [MVA]: The grower problem is apparent, but what I tried to do is get more to the business opportunity that BASF fulfilled.

As glyphosate resistant weeds such as palmer amaranth and waterhemp (resistant weeds) increased over the years, pesticide manufacturers have scrambled to provide viable alternatives, each of which has its limitations. In the early 2000's, pre-emergent residual herbicides (those that are applied before the weed and/or crop emerges) began increasing in sales. While these herbicides were moderately effective in limiting early season weed pressure, they were unable to provide season-long control and effective post emerge herbicides were still necessary. The availability of effective post emerge herbicides became very limited, especially in soybeans and cotton. Two non-glyphosate options remained for soybeans and only one for cotton. Each had their own drawbacks which left an unfilled market need.

Option 1: Post-PPOs. Also in the early 2000's, a class of herbicides used to attempt to control weeds in a post emergence situation that fall into a family of active ingredients called PPOs became increasingly popular. These products are widely available but include key drawbacks. First, these products routinely caused cosmetic crop response that, albeit not yield limiting, often elicited concern from growers and reluctance of their use. Secondly, these herbicides were contact only, meaning that sufficient coverage was needed for complete control. They had a very narrow window for success, requiring extremely small weed height (<2") and exorbitant carrier volume for adequate coverage. Furthermore, PPO herbicides were only registered on soybeans thereby leaving cotton farmers especially in need of a new solution. These herbicides were used heavily as glyphosate resistance spread, which then resulted in the development of PPO resistance in some of the same weed species that also exhibited glyphosate resistance.

Option 2: Liberty®. To address glyphosate resistance, Bayer launched the Liberty Link system. Liberty is a tradename for glufosinate, a non-selective contact herbicide for post emerge weed control in tolerant crops including soybeans and cotton. Glufosinate was a much needed tool, and to date about 10% and 50% of the US soybean and cotton markets have converted to the glufosinate-tolerant trait, respectively. Although Liberty was a new tool that growers needed it also had several drawbacks. First, its availability in the soybean market was somewhat limited due to limited support of the technology by seed companies. Many of these companies receive their genetic and technology packages from Monsanto and were hesitant to abandon Monsanto and the Roundup platform. Secondly, glufosinate itself was also far from ideal. Liberty became known as very "finicky" in terms of performance. Glufosinate requires warm, humid conditions for proper activation and acceptable weed control. This means that in many parts of the country glufosinate worked intermittently, or not at all, resulting in low customer satisfaction. Lastly, the herbicide was perceived to be relatively expensive, likely due to both a high cost of goods and it being a patented chemical only available from Bayer (glufosinate went off patent in 2016). Thus, the total cost of using Liberty was frowned on unless absolutely required, limiting wide-scale adoption.

Solution:

Enter dicamba-tolerant (DT) cropping systems. Dicamba is an active ingredient that BASF has manufactured for over 50 years and therefore has a market leading amount of experience with. As a herbicide, dicamba is highly effective on the many broadleaf weeds that are now resistant to glyphosate and other herbicides, and is much more consistent of a performer in all weather conditions than glufosinate. Dicamba is a molecule that BASF produces in house in the USA for other crops (corn, wheat, etc). Dicamba kills soybeans and cotton as well as it kills the target weeds, so a total system approach was needed including soybean and cotton crops that are tolerant to dicamba, allowing the herbicide to be sprayed over the top of these two emerged crops. The other issue needing attention with dicamba was a market perception that dicamba was "volatile" and could actually re-evaporate after spraying and move with air to deposit on neighboring fields that were often sensitive to dicamba (non-tolerant soybeans/cotton, grapes, tomatoes, etc) causing damage to those crops. A lower volatility form of dicamba would be needed to offer to the market and was

defined early on as a must-have prerequisite. BASF does not sell seed, so a partner was also needed to bring the dicamba tolerant seed system to the market. BASF and Monsanto therefore agreed to cooperate and bring dicamba-tolerant soybeans and cotton to market along with new dicamba herbicide formulations.

In this arrangement, BASF would provide knowledge and IP around the dicamba molecule and regulatory space while Monsanto would focus on developing the tolerant seed and getting it sold into the market while providing BASF a royalty per seeded acre. Monsanto would also be allowed to sell a dicamba herbicide, so in essence Monsanto would sell seed and herbicide but BASF would only sell the herbicide. This meant the companies would actually compete for herbicide sales. As part of the agreement, BASF developed and offered lower volatility versions of dicamba for both companies to consider to sell. In the end, Monsanto chose to focus on an off patent form of dicamba and use along with an additive in the mixture to improve volatility performance, while BASF chose to use a new dicamba molecule with the lower volatility inherent to the product.

Confirming early on the market concern around volatility and weed resistance provided the insight and opportunity for us to lead the market with a message around proper stewardship and education. These topics became pillars for our market approach and market preparation. We would use our well respected field teams and speak from a position of experience when educating the market on how to transition to the dicamba tolerant cropping system properly with minimal risk.

BASF decided early on to use a new form of dicamba, BAPMA dicamba, due to multiple end user benefits over existing forms of dicamba. This new BAPMA dicamba became "Engenia™ herbicide". Engenia would be unique to the market: discovered, patented and offered to the market exclusively by BASF. The main benefits Engenia provided over existing forms of dicamba were: 1) lowered volatility and 2) lower use rate due to being able to produce a more concentrated product.

Sequence of events from project to implementation (years, milestones)

- Pre launch – up to 2016

Monsanto decided to go a different technical route, utilizing an off patent form of dicamba, DGA dicamba, with an additive to address the volatility concern relative to this older product. Their product became "Roundup Xtendimax herbicide with Vaporgrip technology". The results of this technical path were: 1) Monsanto had addressed the volatility concern in their own unique way to build their credibility with dicamba and 2) unfortunately for them doubled their use rate to almost 2X of Engenia, causing handling drawbacks for their product.

The fact that BASF would offer the market a lower use rate and have the only new form of dicamba that improved stability resulted in our go to market message being decided as: "Engenia™ herbicide: The Most Flexible and Advanced herbicide for Dicamba Tolerant crops". The flexibility aspect was apparent from our low use rate and ability to use more types of equipment with Engenia. The advanced message was strictly related to what Monsanto could not claim: we had the only new form of dicamba.

We expected Monsanto to use its extremely strong end user (grower) brand recognition of the Roundup franchise as well as their umbrella branding strategy (they branded their matching soybean and cotton dicamba tolerant seed "Roundup Ready Xtend") to create strong grower demand and pull through the market. While we are still in the initial launch year our team would say their strategy has been successful and Xtendimax has a higher brand recognition in the market vs. Engenia with end users so far (see appendix for brand recognition survey).

As a result of their expected market approach, we focused on a channel strategy approach. This meant engaging strongly distributors who wholesale and the dealer network who retails to growers. We had multiple reasons why we felt this channel support approach would be the best way to compete with Monsanto. First, our sales force: BASF has a much larger crop protection sales force than Monsanto. Most of their sales force is resourced to sell seed. Our sales force is highly regarded by the channel as strong technical experts and trusted advisors. Second, we have a larger herbicide portfolio to compliment the dicamba product than Monsanto. If we could help our channel partners see a total BASF acre be as easy or more technically (agronomically) superior, we would hope to gain their support. Third, existing channel support: Monsanto has a general reputation of being disliked in the channel; forceful programs, advertising and go-to-market tactics. All customer surveys show BASF much higher regarded and more profitable for the channel. Fourth, complexity of sale: this new dicamba system, as approved by the EPA, came with many restrictions for use on how to spray, when to spray, what it can be mixed with, etc. These were all new constraints that farmers had not had to deal with before. We hoped that many farmers would ultimately turn to their retailers for advice on which product to use. If we had that channel support in place when they asked, the retailer would make the sale for Engenia even if the customer came in asking for Xtendimax.

Launch – Dec 2016

We now had to design tactics to employ in order to solidify channel support early. While we had inertia given general channel preference for BASF vs. Monsanto, it would not be near enough on its own. The Roundup franchise recognition and "seed sales pull" they are using are extremely strong strategies. Specific tactics were prepped and immediately employed at launch: relate Engenia to other large recent herbicide launches (Zidua Pro, etc), extensive training of the channel on ways to spray, comprehensive claim handling processes, promotional programs to reward both distribution, retailers (and growers) to use multiple products from BASF, stewardship promotions including free spraying nozzles and even capital reimbursement programs for the latest spraying equipment. We also supported our channel partners pre-launch with their proprietary products to be tested and approved by the EPA for use with Engenia. These proprietary brands represent significant profit for the channel, so giving them line of sight for a more profitable total acre with BASF was critical to earn and solidify their support. We also positioned early as dicamba suppliers: since we already had existing dicamba products in the market for other uses, we could ask for and secure bulk tank and floor space leases from the channel. When Monsanto launched, they found that much of channel had already committed to a BASF dicamba product and there was less "shelf space" left for them.

Other tactics used included promotions that encouraged an early commitment to Engenia herbicide. Not only was there a discount for early ordering, but many other coordinated tactics had aligned commitment dates to ensure the Engenia was ordered and stocked early in the launch season. Communications contracted with outside agencies to assist with planning for and executing advertising and PR campaigns on the day registration occurred. Social, digital, print, radio, direct mail and PR were all used seamlessly to allow us to launch immediately with the most impact in the market

- Communications
 - 'Ingenious' pre-registration campaign: 2013-2016
 - Generated buzz with a teaser campaign for an ingenious new solution coming soon to the marketplace

- 'Pure Genius' launch campaign: Dec. 2016-Present
 - Introduced Engenia herbicide to staff, retailers and growers and transitioned the creative brand concept from 'ingenious' to 'pure genius'
 - Tactics were scheduled for deployment by hours, days, weeks and months, providing constant content for staff, consistent market activity and earned media opportunities
 - Cross promoted Engenia herbicide and the On Target Application Academy (OTAA) training module to certify nearly 400 applicators within two months prior to dicamba applicators
 - Increased aided brand awareness by 14% to 47%

Business Results:

Engenia™ herbicide was launched in December 2016 by US Crop. Expected to become a \$400 million brand within just 2 years, early sales as of May 2, 2017 exceeded \$131 million in revenue. GP is expected to be ~45%, delivering a total of \$60MM in profits within 150 days of launch.

INSERT RESULTS TABLE HERE – MS, ETC

Outstanding characteristics (with regard to contribution to AP and our (farmer) customers' success, entrepreneurial approach, sustainable financial impact, contribution to AP 2020 strategy and suitability for roll-out as best practice)

- **Market Creation and prep**

Working closely with stakeholders such as universities, farmers, distributors and retailers years before launch allowed BASF to plan the launch of Engenia herbicide and message to the market in a way to maximize our differentiation and value proposition to customers. Specific launch tactics such as early order discounts, incentives for customers to buy multiple portfolio products with Engenia herbicide and a very large communications and advertising effort has come together with terrific results so far in the launch season.

- **Selling**

- The Engenia launch is having a huge impact on the success of the US crop commercial business by filling a gap in our soybean herbicide portfolio for post-emerge weed control. A key part of our strategy was that we would need roughly 25,000 farmers to apply Engenia in year one to meet our goals so a robust communications strategy was employed. In addition to the strong sales of Engenia another herbicide launched in 2017 is also experiencing very strong demand by selling out in the first 2 months of the calendar year: Zidua® Pro. Zidua Pro is being offered for use with Engenia herbicide, and promotions that were launched with Engenia reward customers for using multiple products from our portfolio.

- **Process:**

Throughout every stage of the Engenia launch, from early planning to commercialization, US Crop heavily utilized market information to best anticipate

market needs. The R&D group did an excellent job providing a premium product, it was incumbent on us to define a robust launch plan driven by customer needs and concerns. Early on we identified the need for stewardship and education, utilizing our 50 years of dicamba expertise to properly launch the new dicamba herbicide system while establishing ourselves as the dicamba experts with our customers, which remains a point of differentiation for BASF vs. our competitors.

Launching Engenia involved intense collaboration to ensure its success. As the largest herbicide launch in US Crop history it took many years of planning from many business units besides just local marketing: global marketing to secure business agreements; patent applications by legal; product development through Biology; studies and applications by Global and Local Regulatory; production capacity expansions by Operations, raw material sourcing by Supply Chain, an integrated promotional plan developed by communications in collaboration with outside vendors; training and education of the field sales force and customers by Technical Service; securing Distributor support by Strategic Account Managers; and valuable input on messaging, pricing, and programs by Sales. Consequently, the launch of Engenia herbicide exemplifies the collaboration necessary for success.

Field Support

The ultimate task as launch manager for Engenia was to get the final product ready to launch for the US market. Destined to be the largest brand in the history of BASF agricultural products, the first order of business was to create a local launch team that included members from many parts of the organization. Sales directors, local field managers, technical service members, customer service, advertising agencies, local sales reps and more all became part of the larger US Crop team effort to prepare and succeed in the launch of Engenia herbicide the US. These team members provided critical feedback in areas such as: value proposition, marketing messaging, field trial designs, advertising campaigns, product pricing and promotional programs. Regular meetings with customers also ensured we were ready to launch together and that our approach would have complete market support upon EPA registration and sale of Engenia.

- Programs and launch tactics
- We now had to design tactics to employ in order to solidify channel support early. While we had inertia given general channel preference for BASF vs. Monsanto, it would not be near enough on its own. The Roundup franchise recognition and "seed sales pull" they are using are extremely strong strategies. Specific tactics were prepped and immediately employed at launch: relate Engenia to other large recent herbicide launches (Zidua Pro, etc), extensive training of the channel on ways to spray, comprehensive claim handling processes, promotional programs to reward both distribution, retailers (and growers) to use multiple products from BASF, stewardship promotions including free spraying nozzles and even capital reimbursement programs for the latest spraying equipment. We also supported our channel partners pre-launch with their proprietary products to be tested and approved by the EPA for use with Engenia. These proprietary brands represent significant profit for the channel, so giving them line of sight for a more profitable total acre with BASF was critical to earn and solidify their support. We also positioned early as dicamba suppliers: since we already had existing dicamba products in the market for other uses, we could ask for and secure bulk tank and floor space leases from the channel. When Monsanto launched, they found that much of channel had already committed to a BASF dicamba product and there was less "shelf space" left for them.
- Other tactics used included promotions that encouraged an early commitment to Engenia herbicide. Not only was there a discount for early ordering, but many other coordinated tactics had aligned commitment dates to ensure the Engenia was ordered and stocked early in the launch season. Communications contracted with outside agencies to assist with planning for and executing advertising and PR campaigns on the day registration occurred.

Social, digital, print, radio, direct mail and PR were all used seamlessly to allow us to launch immediately with the most impact in the market (see appendix for day 1 report example).

Pricing

Pricing strategy was a combination of inherent market knowledge of the system cost of the next best alternatives (Post PPOs, Liberty), as well as elasticity studies conducted by market intelligence, grower surveys and customer focus groups. We determined we could charge a similar or slightly higher amount to the next best alternatives but we limited by having to be very close to the same cost as Monsanto's Xtendimax since both offerings killed weeds with the same effectiveness. Our low use rate and stewardship leadership vs. their brand recognition and seed offer link would battle it out for final share and tie breaking. In the end, Monsanto received registration and therefore launched first and seized the opportunity to set the price first. When we launched one month later Engenia's price was set at \$10.80 / Ac, which was within 5% of Monsanto's price. This price point puts it somewhat higher than Post PPOs but similar to Liberty's total cost and in line with our studies confidence limits of acceptable pricing.

Above and beyond?

The launch team took on these responsibilities in addition to their current work load. One example would be the sales and communications managers had many other products and sales responsibilities to maintain or grow in addition to taking on the huge launch of Engenia herbicide. Other than the US Crop marketing manager for Engenia, there were no dedicated staff added to manage the launch resource needs. Engenia had many hurdles during launch above and beyond normal expectations that created more difficulty than anyone had expected. Additional examples would be the undetermined approval timeline that had to be managed that led to multiple seasons where we expected and planned for a launch but that did not become possible due to delays of registration at the EPA. Keeping field momentum and excitement was a real challenge for the last 24 months before launch. We cannot think of any launch in US crop history that was both so difficult but also had such a high opportunity and financial reward.

- **Communications**
 - Pre-registration activities primed market for brand introduction and differentiation during launch campaign.
- **Stewardship**
 - Specific training for growers and applicators, both through live, in-person On Target Application Academy sessions, and through an online training module.
- **AP 2020 Solution Provide in Action**
 - Aligned to AP 2020 strategy of addressing solutions as a key focus pillar to drive growth
 - Aligned to AP 2020 strategy of long term downstream partnership
 - Aligned with AP 2020 strategy promoting AP as a thought leader in BASF community

Graphics / examples / creatives

- Slides from regional marketing application (see separate word doc)
- Brochure pdf
- Window cling
- Magazine ad example
- Engenia herbicide "Clean Slate" TV spot
- Campaign website: engeniaherbicide.com
- Engenia herbicide Tank Mix: engiatankmix.com
- Engenia herbicide post-registration brochure

Comment [M12]: You published it to come