



Spray Additives: Considerations in product development and commercial viability

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What process does Syngenta utilize to develop adjuvant recommendations for product labels?

- **Key questions that are considered in product development phase:**
 - ✓ **How will the choice of adjuvant influence product performance and crop phytotoxicity?**
 - ✓ **What is/are the required function(s) of the active ingredient and how does adjuvant impact?**
 - Foliar penetration
 - Foliar coverage
 - Foliar retention
 - ✓ **What is the chemical identity of the adjuvant?**

Adjuvant Testing Guidelines During the Development Phase

- **Product performance and crop safety are the first priorities for Syngenta**
 - *Adjuvant selection must deliver on these aspects otherwise product performance will suffer and brand image is damaged*
- **For adjuvants of interest, physical compatibility of with the specific Syngenta product(s) is essential**
- **Generally test categories of adjuvants (e.g. NIS, COC, etc..)**
 - *Because adjuvants change over time, testing with specific brands is limited prior to commercial launch*
- **What rate(s) of an adjuvant should be tested?**
- **What is the commercial availability of the adjuvant?**

What are the biggest concerns about how adjuvants are developed or recommended in the US?

- ✓ **Syngenta needs confidence (i.e. data) that the adjuvants deliver efficacy and crop tolerance with the specific products being applied**
- ✓ **Quality: Adjuvants with same brand name can have compositional changes from year to year, so it's difficult to know if performance is equal**
- ✓ **Adjuvants are typically sold for benefits other than efficacy or crop safety, but efficacy and crop safety are still the most important**
 - *Drift, deposition, buffering, compatibility, water conditioner, etc.*
- ✓ **Adjuvants are positioned as multi-purpose products that solve many issues – *difficult to know the primary key benefit***

What changes would you like to see adjuvant distributors or manufactures do, to make your job easier?

- **Select industry standard adjuvant within a class/type that all new additives are compared against. This would be a standard that is consistent across distributors and years**
- **Clearly identify the type of additive components that are in each product**
 - *For example, the product contains surfactant, crop oil, AMS, etc.*
 - *Some products are good and some are very poor*
- **Need industry agreement (basic manufacturers and distributors) on general terminology for describing adjuvants on product labels**
 - *too many issues and challenges so listing specific additive brands on product labels is not feasible*

Once the product is commercial,

- *What are our limitations in promoting all/any adjuvants (i.e. we recommend an N.I.S for POST use, are these specific N.I.S. or open to all?*
- *What about adding other additives such as water conditioners, drift reducers, etc.?*
- **Providing product meets the category description, it is an acceptable adjuvant**
 - *If it doesn't meet the criteria, then it is not recommended.*
 - *Provide performance data with specific products compared to standard adjuvants listed on crop protection product labels*

Other Comments

- **Need to obtain and share data showing efficacy and crop tolerance**
- **What is the distributor position when a product doesn't work as expected in mixture with an additive?**
 - *Who shares the responsibility when the active ingredient doesn't control the pest or when the crop is injured?*
 - *Will distributors be willing to share in complaint costs for product performance and crop injury complaint?*

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