



Seed and Crop Protection Industry Note

Important disclosures can be found in Appendix

Seed and Ag Chem: Raising Our N/T Corn Plantings & Glyphosate Price Forecasts; Research Points Toward Minimal Seed Prices Next Fall (Cleveland Research)

(Companies Mentioned: CTVA, FMC, Bayer, NTR, Syngenta, BASF)

Key Points

- We have raised our 2021 US corn planting forecast by 1.5m acres to 92.5m acres and our US soybean planting forecast by 1m acre to 90m acres as a result of improved farmer economics and mild winter weather increasing the likelihood of an earlier and longer planting period this spring.
- We are hearing Bayer is expected to lose a little over 5% market share in soybean seed to Stine, its distributors and Syngenta. We expect Corteva's market share in soybean seed to remain relatively flat with a modest margin improvement as it increases its percentage of Enlist sales from ~23% last year to ~40% of its US soybean seed volumes in 2021.
- Corn seed market share and pricing appear to be holding relatively flat from year ago levels given relative yield parity and lack of market share push from competitors.
- Most of the seed industry expects seed price increases for the next 2021/22 growing season to be mostly limited to passing through cost increases which based on current commodity prices corresponds to roughly \$7-8/bag for corn and ~\$3-4/bag for soybeans. The biggest factor which could lead to higher prices in soybeans is if Stine elects to switch from a market share driven pricing strategy to a price for value strategy and our research suggests most of the industry believes Stine is likely to remain market share focused next year.
- We are hearing Bayer raised glyphosate prices another 5-10% over the past several weeks which is on top of a prior November price increase. We attribute the current tightness in the US glyphosate market to delays in generic product arriving into the US and believe near-term tightness in the glyphosate market could also benefit larger ag retailers who purchased glyphosate early and have higher inventory levels.
- We are hearing that pricing on other Crop Protection products remains competitive, but that prices are stabilizing or more slightly higher from December levels as farmer economics and acreage expectations have increased. We are raising our US industry Crop Protection pricing forecast for non-glyphosate and glufosinate products from flat to +1.5%.

Conclusion. The biggest takeaways from our latest round of discussions with independent US seed manufacturers and ag retailers are (1) Enlist is on track to reach 40% market share this year, (2) glyphosate prices have seen recent strength that we think may last through the next several months, (3) prices on the majority of other crop protection products have started to stabilize or move slightly higher and (4) seed pricing is not expected to increase by more than cost of production increases in 2021/22 barring a change in marketing strategy by Stine. With its expected shift of its portfolio from Xtend to Enlist (which should reduce Corteva's royalty payments to Bayer over time) and through the continued development of its own Pioneer bred Enlist genetics we believe Corteva is likely better positioned for growth than Bayer who is likely to be facing continued headwinds in soybeans from reduced royalty fees and potentially a continuation of Stine's market share driven approach toward growing Enlist in the US soybean market. While our research points toward US farmer pre-pays increasing, we believe the fertilizer companies are seeing more near-term price appreciation and have more upside versus consensus to their near-term forecasts than Corteva or FMC.



Highlights

We Are Raising Our US Corn Plantings Forecast From 91m Acres to 92.5m Acres & Raising Soybeans to 90m Acres

- We have raised our US Corn plantings forecast by 1.5m acres to 92.5m acres which corresponds to a 1.5m increase over last spring. Though higher than our previous forecast, the results from our latest round of discussions came in roughly 1-2m acres below what we were expecting and reflects what many of our industry contacts are seeing in their order books and what they are hearing from growers out in the fields.
- We had expected a higher corn plantings forecast based on the recent rally in corn prices (knowing that many Midwest farmers prefer planting corn over soybeans when economics are strong on both crops). Additionally our recent fertilizer work pointed toward a strong fall nitrogen application season which should at the very least provide a higher floor for US corn plantings this spring.
- We believe it is still possible for US corn plantings to reach 94-95m acres this spring if there is favorable early season weather in the US and/or a shift in the soybean/corn price ratio based on other market factors such as Chinese demand and South American corn and soybean yields.
- We are forecasting 90m soybeans which is 1m acres above our prior forecast and ~7m acres above year ago levels. The reason for our higher forecast on both corn and soybeans is our increased hope for improved acreage from the Dakotas (which were hit by adverse weather last spring) and acreage gains from other crops such as cotton in the South and wheat in parts of the Plains.
- We estimate each incremental 1 million acres of corn is roughly \$100m in incremental sales and each 1 million in incremental soybean plantings is roughly \$55m (for treated soybeans) in sales for the industry. We estimate gross margins are roughly 45-50% in corn for companies such as Bayer and Corteva who are trait developers and we estimate Bayer's gross margins in seed are above 50% as its margins on the royalties collected from its licensing of the Xtend and Flex traits is likely higher than the margins on its own soybean brands which include the cost of its seed genetics.

Our Research Points Toward Bayer's Xtend System Losing 5-7 Market Share Points To Enlist

- There was a fairly wide divergence amongst the seed companies we spoke with on the market share split between the Xtend and Enlist weed control systems this year. We are forecasting the US Enlist market share to be roughly 40% this year which would represent roughly a 17% increase in share versus last year.
- We believe part of the reason for the divergence in opinions is due to some strong geographical splits amongst the products. Our research continues to point toward the Xtend weed control system (including Flex) continuing to have a dominant share (80%+) of the Southern US which we estimate to account for roughly 20% of US soybeans acres. We are also hearing that Xtend outperformed Enlist in parts of the Western Corn Belt such as NE and KS as well as parts of the country where the Kochia weed is more prevalent.
- Conversely, we are hearing the Enlist weed platform was competitive in many maturities across the Central and Eastern Corn Belt and we estimate that Enlist may have exceeded 40% market share in some of these markets.
- In total we see Bayer losing roughly 5-10 share points in soybeans to a combination of Stine, Stine distributors and Syngenta. We believe these share losses were driven by a combination of lower price points (the biggest driver), competitive yield performance and some growers preference for spraying 2,4-D over dicamba. Those who are forecasting Bayer to lose closer to 5% share (versus 10%) expect Bayer to potentially become more competitive on pricing toward the end of the seed selling season and others cite Bayer's marketing or the product performance of Xtend as factors which may limit share losses. Because we are forecasting a 6-7m increase in US soybean plantings we believe some of Bayer's potential share losses are likely to be offset by increased US soybean plantings.


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- Within Bayer's product line, we have been hearing estimates that XtendFlex may account for somewhere between 10-20% of Bayer's own soybean sales this year. The divergence by area is a reflection of the increased demand for Flex in regions where the need to spray Liberty (glufosinate) is greater and the regions with a smaller percentage of Flex sales are in areas where growers are comfortable with the legacy Xtend weed control options and choosing to go with the seed varieties that have a more proven historical track record. We are hearing that XtendFlex is generally selling for roughly \$2/bag above Xtend and we expect XtendFlex to grow as a percentage of Bayer's portfolio in the outer years as Flex develops a more proven track record on yields and Bayer's newer genetics are more geared toward Flex.
 - We are forecasting Corteva to hold market share in US soybeans and expect Corteva's mix to shift from roughly 23% Enlist last year to roughly 40% Enlist this year and the vast majority of its remaining sales are Xtend soybeans (Corteva is not selling XtendFlex soybeans). Even with the growth in Enlist, we don't see Corteva gaining market share in Pioneer Enlist soybeans because Stine and others are pushing pricing to gain market share whereas we are hearing Corteva has been more focused on maintaining pricing integrity.
 - We continue to view the transition from Xtend to Enlist as one of the biggest growth opportunities for Corteva over the next several years as we see the company boosting its margin from (1) reduced royalty payments on Xtend to Bayer, (2) increased royalty revenue from Enlist market share growth and (3) increased sales of Enlist herbicides as Enlist grows market share. Additionally, we believe further price/margins opportunities could be available as Corteva sells a higher percentage of its own Pioneer germplasm in Enlist soybeans as opposed to licensing genetics from others for Enlist soybeans.

We Are Forecasting Flattish Corn Seed Pricing & Market Share Shifts For This Spring

- Much like the past several years the corn market has been fairly boring with seed price/mix and market share expected to be relatively flattish again this spring.
- The most interesting thing from our latest research is that most seed companies/retailers are reporting that they are not seeing farmers trade up on their trait packages with the tailwind of higher crop values. The industry attributes the lack of a trade up to the farmers being satisfied with the yield performance of VT Doubles versus SmartStax and the lack of significant insect pressure across many portions of the Midwest.
- Given the relatively mild winter across much of the Midwest coupled with a bit of increased discussion about rootworm pressure in a few areas late last summer, we believe there is a slightly greater chance that insect pressure could become a bigger deal next summer and should that occur it could open the door to increased insecticide usage.
- In the case of Corteva, we are forecasting a 1.5% price increase which reflects a slight trade up in genetics (which we also expect most of the industry to also benefit from) and a slight mix lift from QRome moving from ~20% of Corteva's corn sales last year to ~25% this year.

Our Research Suggests Most Of Seed Industry Expects Price Increases Next Year To Be In-Line With Cost Increases

- Most of industry anticipates higher average corn and soybean seed pricing next year, but only to levels which offset projected cost increases. The majority of these projected cost increases are expected to come in the form of higher grower payments to produce seed corn/soybeans for next season and the rate of the increase is largely tied to increases in the underlying corn and soybean commodities.
- Based on where current futures are trading, we are hearing corn seed costs may increase by roughly \$7-8/bag or 3-4% and soybean costs may be ~\$3-4/bag or 6-7% higher.

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- Our soybean seed pricing forecast is predicated on the assumption that Stine continues to prioritize market share gains over maximizing its profit per acre next season. Should Stine decide to increase its seed prices to be more in line with Corteva's Enlist and/or Xtend soybeans there could be more room for Bayer and Corteva to take prices higher.

We Are Hearing Bayer Has Taken Another 5-10% Glyphosate Price Increase On Top Of A November Increase

- Our latest research suggests Bayer recently raised its glyphosate (Roundup) price by another ~5-10% which is on top of a ~10% increase in November.
- We are hearing that the US glyphosate market has the potential to remain tight through the March/April timeframe due to delays in generic glyphosate arriving in dealer warehouses from China. These delays are due to a combination of factors including back-ups at the Port of Long Beach and in China.
- We believe any further delays in the arrival of generic glyphosate should benefit Bayer's domestic Round-up sales.
- We estimate that newly purchased glyphosate prices are roughly \$2-3/gallon above year-ago levels. We also estimate Bayer manufactures a little over 300 million gallons of glyphosate per year. While we believe the recent increase in glyphosate prices may help to partially offset some of the potential share losses/weaker pricing in soybean seed it is worth noting that Bayer may have sold a sizable portion of its glyphosate sales for this spring prior to the recent increase and it may not see as much of an increase on its international glyphosate sales.
- From a positioning standpoint, we believe it is possible that larger retailers such as Nutrien may capture a higher market share and potentially higher margins on glyphosate sales if some of the smaller retailers and coops are short on product due to delays in the arrival of generic product.

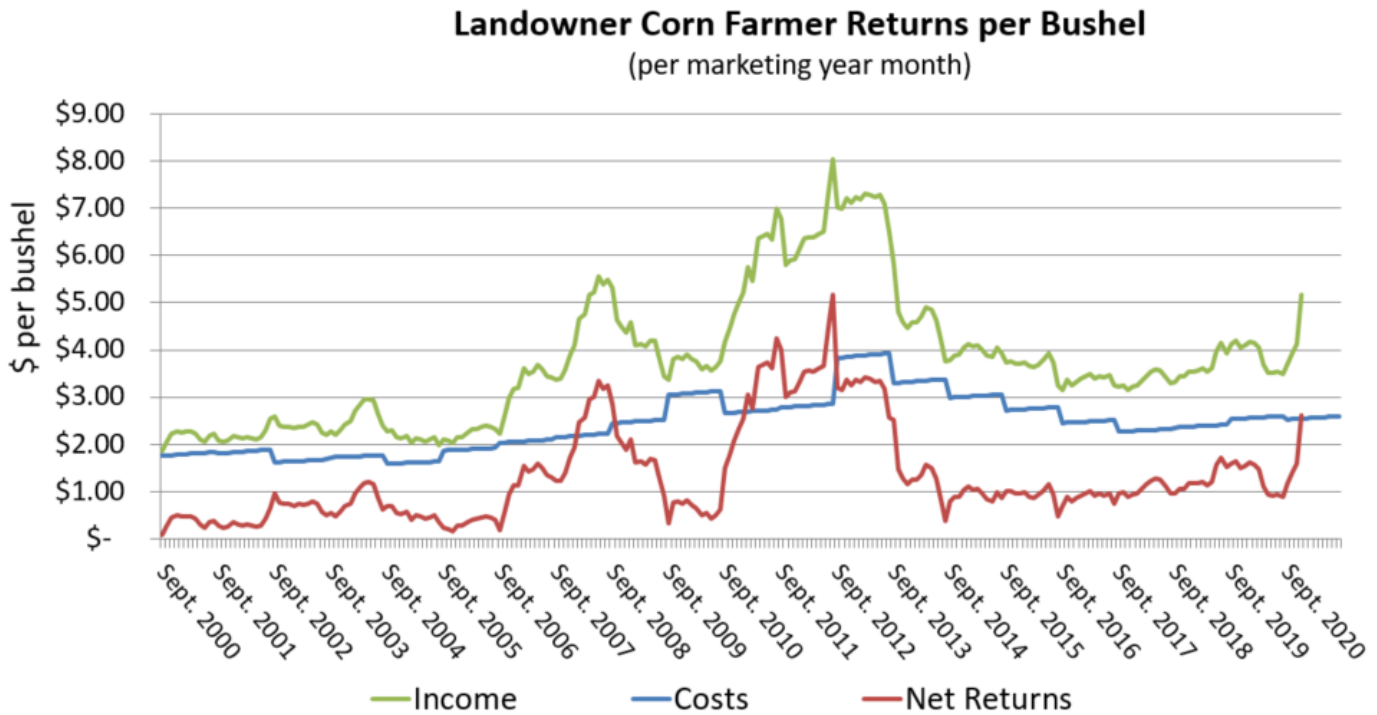
We Are Hearing Ag Chem Prices Have Stabilized For Many Products & Some Products Trending Slowly Higher

- We are raising our US Crop Protection price forecast for non-glyphosate and glufosinate products from flat to up 1.5%. Our revised forecast reflects a stabilization to slight tightening amongst several of the other products.
- We believe the product which was sold at 4Q is more likely to be flat to down LSD% and product sold closer to the spring is going to be closer to 3-4% as the price of active ingredients (as well as the cost of transporting the active ingredients/intermediates) from overseas has risen since the beginning of December
- We heard that some retailers who purchased CP products toward the end of December were able to get better terms than they were previously expecting from some manufacturers. Should supplies get tighter for certain products (as a result of improved demand and/or delays in bringing product here by early spring) we could see fewer manufacturer rebates this spring and into next year.

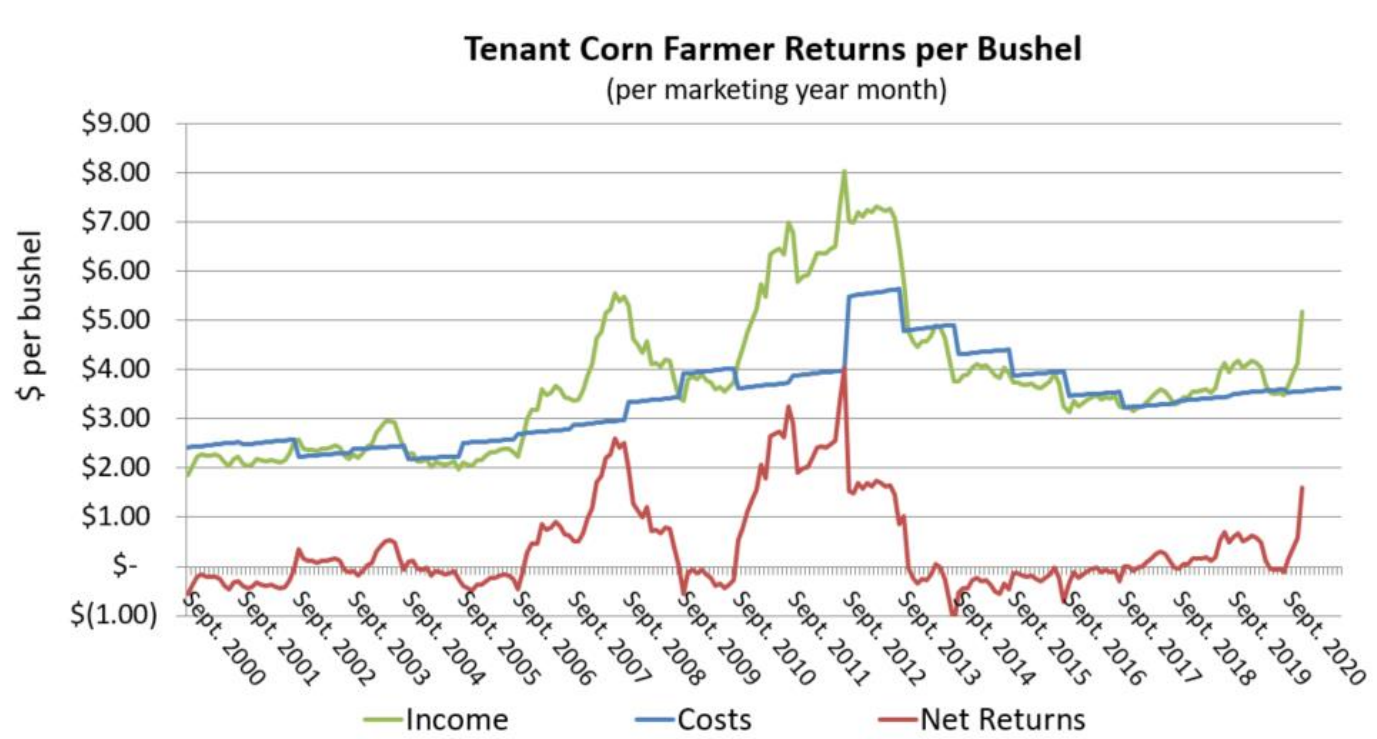
Most Seed/Ag Chem Retailers & Independent Seed Companies Reporting Higher Y/Y Prepays By Growers

- We are hearing that with the increase in projected farmer returns and the increased amount of farmer aid that many US corn/soybean growers received last year that farmer pre-pays on seed and ag chem were generally 10-20% higher than year ago levels as of the end of December and that actual orders were up MSD% versus last year.
- Our research suggests US seed and ag chemical manufacturers are likely to benefit from potential increases in the total number of acres planted and potentially more proactive pre-emergence herbicide usage and in some instances more proactive fungicide applications.
- Most fungicides and insecticides purchases are likely to be made on a discretionary basis like previous years.

Figure 1: US Soybean and Corn Farmer Profitability



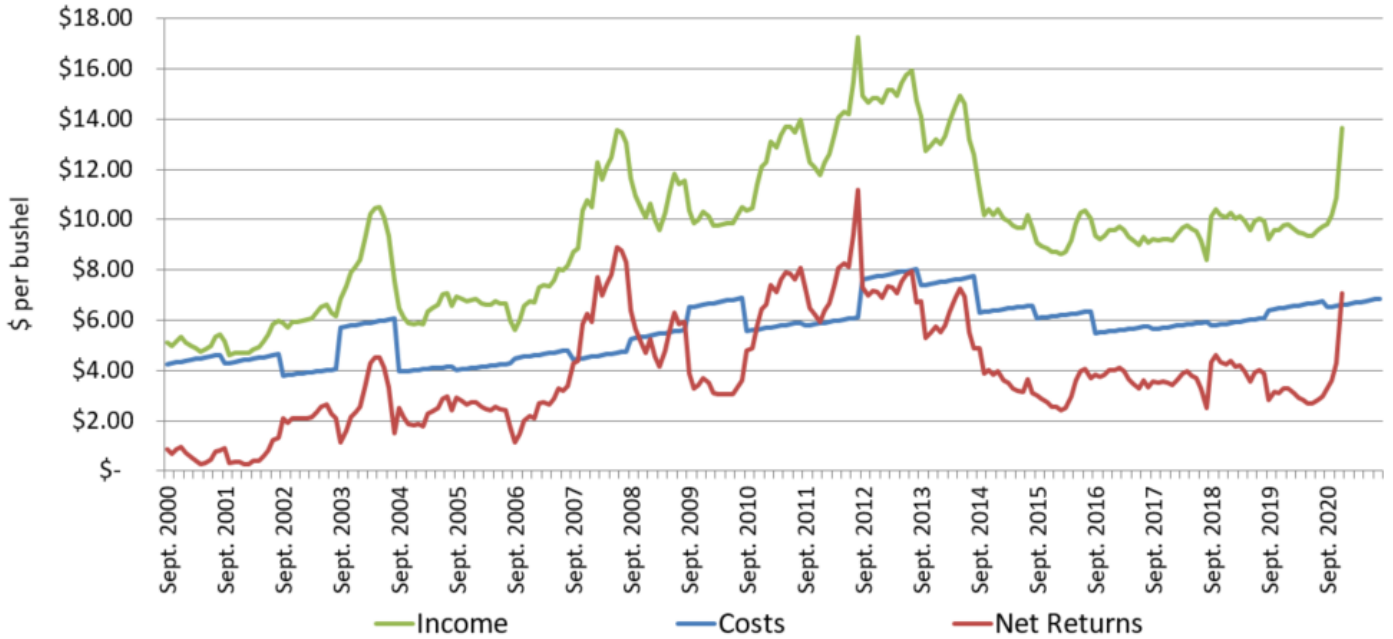
Source: IA State



Source: IA State

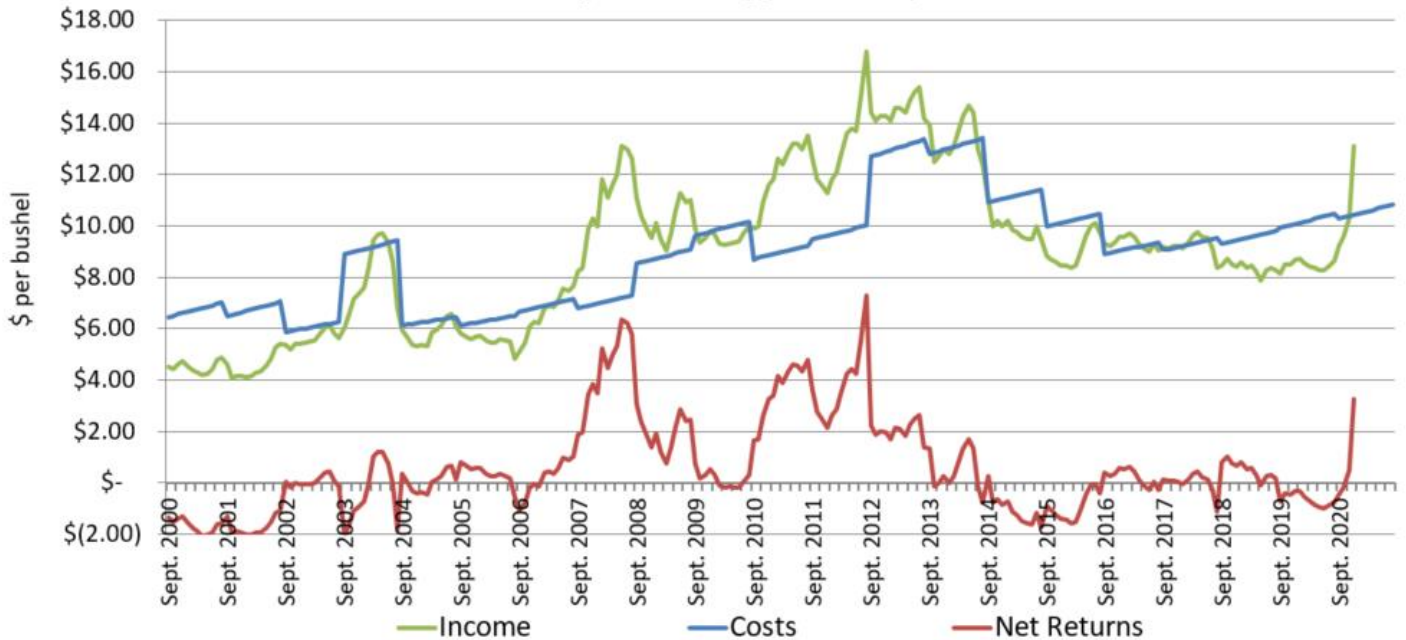


Landowner Soybean Farmer Returns per Bushel (per marketing year month)



Source: IA State

Tenant Soybean Farmer Returns per Bushel (per marketing year month)



Source: IA State



APPENDIX

Important Disclosures

Companies Mentioned

Bayer Ag (BAYN-ET: \$46.45 – Not Rated)

BASF (BAS-ETR: \$63.11 – Not Rated)

Corteva, Inc. (CTVA: \$38.39 – NEUTRAL)

FMC Corporation (FMC \$116.43 – NEUTRAL)

Cleveland Research Company - Ratings Distribution

| Rating | Percent |
|---------------|----------------|
| Buy | 33% |
| Neutral | 65% |
| Underperform | 2% |

Disclosures

Buy: The stock's return is expected to exceed the market due to superior fundamentals and positive catalysts.

Underperform: The stock's total return is expected to underperform the market due to weak fundamentals and a lack of catalysts.

Neutral: The stock is expected to be in line with the market due to full valuation and/or a lack of catalysts.

Valuation and Risk: Price targets are established under various valuation methods including P/E, P/S, EV/EBITDA on financial estimates based on forward earnings. Price targets are not established for every stock. The price target's effectiveness may be affected by various outside factors. Risk assessments can be found in the most recent research on these stocks.

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