



The proof is in the poultry

Analytics, visualization help Elanco clients produce more robust chickens

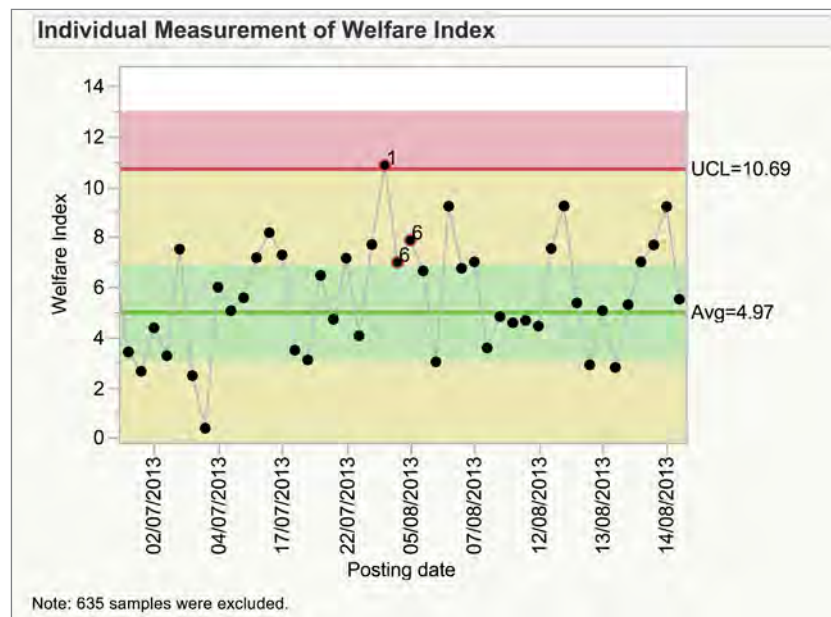
Andy Liddle acknowledges that he's no expert on chickens, but this much he knows: A healthy bird is a plump bird, and a plump bird makes for a happy producer.

Liddle is Director of UK-based Process Insight Consulting, and one of his clients is Elanco Animal Health, a division of Eli Lilly that provides solutions to produce abundant, affordable and safe food for a growing global demand. Liddle is in the business of demystifying data analysis and helping Elanco veterinarians and consultants, who are not statisticians, learn more from their data.

Elanco is a global leader in development of products and services to enhance animal health and welfare. In recent years, Elanco has also offered technical assistance to its customers.

Elanco veterinarians regularly visit farms to examine birds for early signs of health issues. These visits have frequently triggered successful interventions, but the data gathered was seldom used to improve general practices.

JMP® statistical discovery software allows Elanco to improve data collection and analysis, and then makes it easy to share analysis results. JMP enables the veterinarians to



Control charts like this one track bird welfare over time.

delve into their data as never before and to recommend best practices.

Not only that, Liddle says, JMP helps bridge the gap between "the language of statistics and the language of chickens."

"With JMP," he says, "we can present statistical concepts in a clear, approachable, relevant and fun way that allows veterinarians to deliver relevant information to their customers devoid of 'statistical gobbledegook.'"

'Fantastically visual'

The genetic potential of chickens is well understood, but the real world

often gets in the way of producing plump, healthy birds. Diseases can be traced to numerous factors that include breed, age, feed type, climate and seasonality.

Elanco's Health Tracking System (HTS®) has an enormous database, which makes it a great resource, but it was sometimes difficult to cut through the noise to find meaningful correlations and offer sound recommendations.

Christophe Bostvironnois, the Poultry Marketing Execution Manager for Elanco's operations in Europe, the Middle East and Africa, was convinced



"JMP allows people who aren't data savvy to engage."

Andy Liddle
Process Insight Consulting

of the need for a more advanced approach to data analytics. In January 2013, he called in Process Insight. JMP had already gained some traction within Elanco, so Liddle began to work with Bostvironnois and about 25 of his colleagues to use the software more fully to its potential.

"I knew that JMP would allow them to see patterns, trends, things of value for their customers, without requiring a statistical background," says Liddle, an internationally recognized expert in Lean Six Sigma deployment and process improvement.

"I like to work with numbers, but my background is not as a statistician," Bostvironnois says. "From the start, I found JMP to be an easy tool to manage."

"It's fantastically visual," Liddle says. "You don't have to think like a statistician. You can say, 'I've got this problem, I've got this data set. I'm interested in this particular response, and I wonder how it's influenced by all these possible factors.' You try it and you get patterns and visual outputs that can help you interpret it."

After analysis, Elanco veterinarians then use the graphical features within JMP to present their findings to customers in an easy-to-grasp format.

Days down to hours

The veterinarians rely on JMP Scripting Language to create dashboards with reports and graphs that are customized for particular clients. They can then plug in data as it becomes available, using filters to

drill more effectively into findings of interest. And with the JMP Prediction Profiler, the veterinarians can compare results from different models.

"They now have this very flexible and fluid way of finding things," Liddle says. "And once you've found something, you can standardize it. The scripting allows you to automate that very quickly and easily."

JMP Graph Builder is another tool that's been a game changer. Liddle says monthly reports that once took Elanco veterinarians two or three days to generate and distribute using Microsoft Excel are now completed in a couple of hours. "The interface is so

CHALLENGE

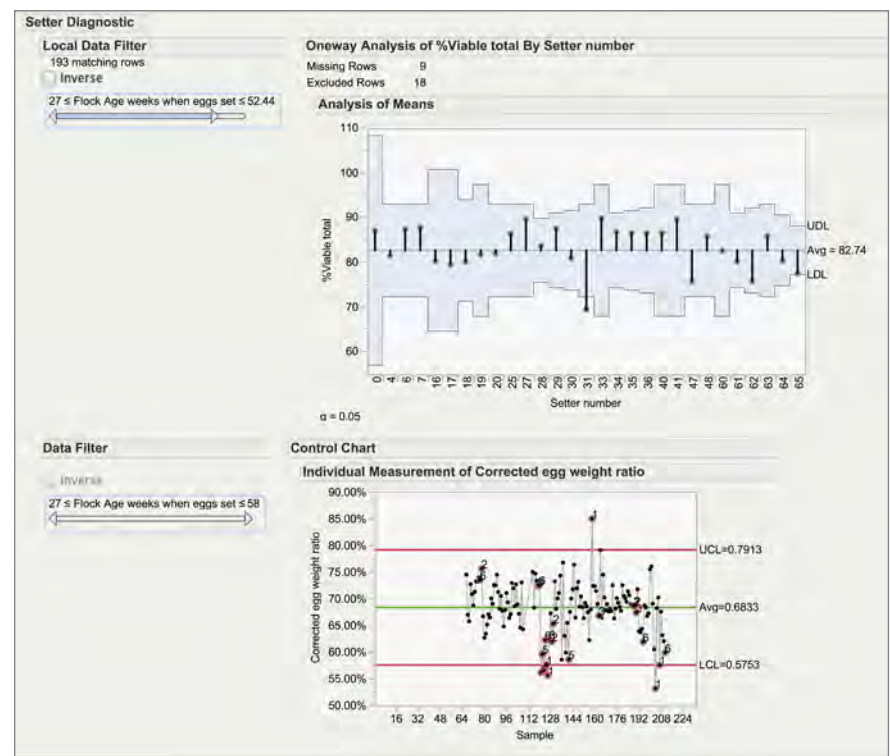
Analyze data collected from more than 500,000 chickens and recommend health-enhancing practices to poultry producers.

SOLUTION

Process Insight Consulting works with Elanco Animal Health veterinarians at "demystifying data analysis" using JMP® statistical discovery software from SAS.

RESULTS

Elanco veterinarians and technical consultants uncover statistically significant links between various genetic, dietary and environmental factors affecting the health and development of chickens, then communicate analysis results to producers in an easy-to-understand format.



The Setter Dashboard is used to compare the performance of different setters and highlight problems.

visual, allowing information to be presented in a way that's very easily understood."

Putting it to practical use

Liddle says he often grows frustrated with companies that sit on data that could be used to drive process improvements. Elanco's process provides data-driven results.

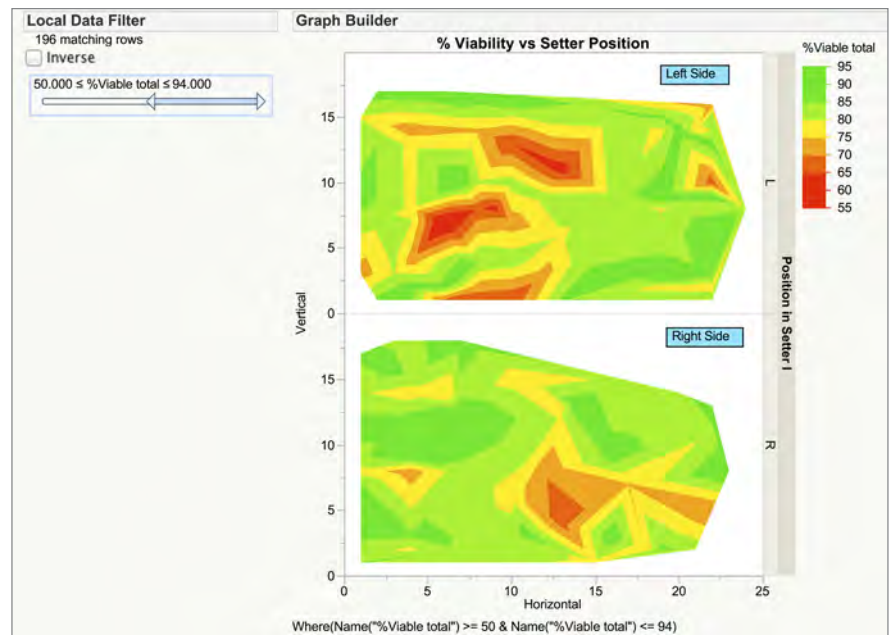
For example, Bostvironnois describes a parasite once believed to be a threat only to chickens up to four weeks of age. In-depth analysis with JMP revealed that the disease was more severe than believed and that it could, in fact, affect birds up to seven weeks old.

"What they can do with JMP is quite visually build a model and say this is what the profile looks like with the drug or without it," Liddle says. "And they can present that in a way that their customers can easily understand without having to understand what's going on behind it. Whereas if they gave them tables of numbers and standard variations and multiple regressions, they just wouldn't have a clue.

"JMP allows people who aren't data savvy to engage."

Bostvironnois says this process worked convincingly in the case of the above-mentioned parasite.

"We were able to demonstrate to our customers that this parasite would put the welfare of their birds at risk if they didn't continue to pay attention to it," he says. Elanco offers a drug to treat



Multiple trays of eggs are placed in very large setters. This dimensional heat map allows the team to see if there is a link between the location of the tray within the setters and the percentage of eggs that develop into healthy chicks.

the parasite. Its customers now have healthier flocks.

Liddle finds it satisfying to work with companies like Elanco that are eager to put data to productive use. JMP makes that much easier to do. Meaningful data analysis, he says, no longer has to be the sole province of "that very small subset of the population who are comfortable talking the peculiar language of statistics."

"Our passion at Process Insight Consulting," Liddle says, "is demystifying data analysis so anyone in a business can extract value from the data that's all around them. The trick is to find ways of making the training

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Elanco

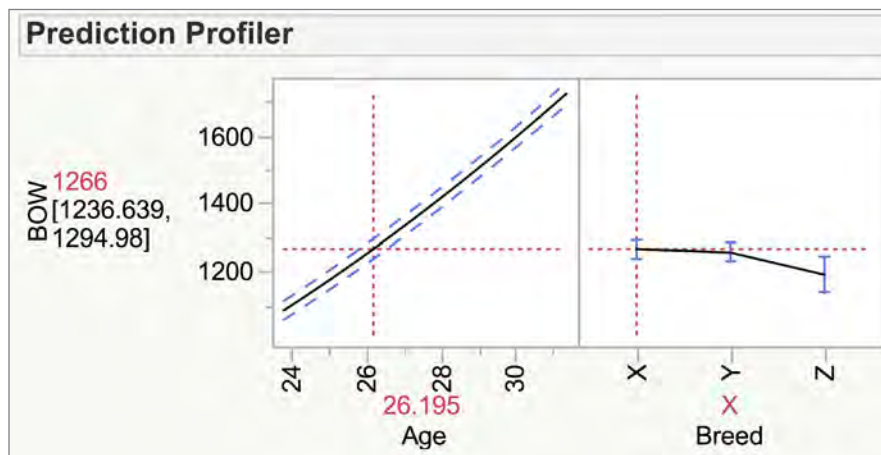
relevant, tailoring it to match the particular audience.

"You know you're doing something right when an Elanco account manager tells you, 'I never imagined stats could get me quite so interested and enthused.'"

All manner of process improvements are now more readily accessible.

Elanco veterinarians and technical consultants will continue to build on their database of health records for 500,000-plus chickens. "We haven't yet discovered the limits of JMP," Bostvonn says, but he already considers it an essential tool. "JMP is fast, it's reliable, it's easy to use, and the visual effects are just amazing."

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This predictive model of bird body weight by age and breed allows farmers to predict and monitor growth.



JMP helps Elanco veterinarians delve into their data as never before and develop best practices for raising healthy chickens.



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jmp.com/trial

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SAS Institute Inc. World Headquarters

+1 919 677 8000

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