Kiwifruit dashboard tools

A single web-based software platform but three dashboard tools i.e.

- Orchard
- Postharvest (packhouse/coolstore)
- Zespri (for industry-level reporting and based on data provided by the orchard and postharvest tools)

All following Screenshots are from the Demo site, using only dummy data.
Orchard dashboard
Welcome to the Kiwifruit Sustainability Dashboard

This tool will allow you to monitor, report and benchmark key performance indicators relating to sustainability.

It is being developed as part of the New Zealand Sustainability Dashboard project, funded by MBIE and supported by a number of kiwifruit partners (shown below).

Click here for notes on entering data in the data entry section.

The home page describes the tool and presents a snapshot of the results for the user in the form of a spider chart (see page 7 for how to interpret this)
A user can enter and view data for multiple orchards.

By default high level info is requested.

Users have the option to enter more detail, for individual varieties, by clicking the arrows (i.e. “>”) next to the ‘Total’ labels.

Data entry is organised by sustainability pillar and outcomes / objectives.
Data for individual varieties can be entered or a ‘Total’ for all varieties can be entered if individual variety info is not available.
Again, users have the option to enter more detailed info by clicking on the blue ‘+’ icons. This info is available later in reporting.

**Expenditure**

<table>
<thead>
<tr>
<th>Item</th>
<th>Total</th>
<th>Hayward</th>
<th>Gold3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total on-orchard costs</td>
<td>150,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harvest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mowing, mulching, shelter &amp; root trimming</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crop protection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Budbreak</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Fertiliser</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Pollination</td>
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<td></td>
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<tr>
<td>Monitoring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frost protection &amp; irrigation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicles</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>R &amp; M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overheads</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Income**

<table>
<thead>
<tr>
<th>Item</th>
<th>Total</th>
<th>Hayward</th>
<th>Gold3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total OGR</td>
<td>450,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Chart interpretation
Orange line in the middle is average of all orchards (that data has been entered for). Blue points are the average values for the orchards associated with the user that is logged in. If these points are outside the orange line in the green zone then their result is better than average; vice versa if inside the orange line in the red zone.

Clicking on the blue points leads to more detailed results including for individual orchards and varieties (see example on next page).

Hovering over the blue points reveals additional context i.e. the number of orchard operations that the average is based on.
A major objective of the dashboard tools is to use existing industry data to minimise data entry burden.

Here, the results shown are based on Zespri spray diary data that has been automatically imported – this data was previously entered by users as part of their normal orchard management requirements.

Reporting menu allows benchmarking to be customised e.g. for a particular orchard, variety, region etc. By default, the results reported initially are the averages of all factors e.g. all varieties.

Hovering over the orange points reveals additional context i.e. number of orchard operations that the average is based on.
Postharvest dashboard
Welcome to the Kiwifruit Sustainability Dashboard

This tool will allow you to monitor, report and benchmark key performance indicators relating to sustainability.

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A major recent development is GHG reporting

Design & functionality similar to orchard dashboard however content differs reflecting the inherently different systems.
Data entry

As with the orchard version, a user can enter or view data for multiple postharvest sites.

Data entry priority is given to the capture, reporting and benchmarking of resource use efficiency which is a key focus for packhouse/coolstore operations. Additional fields below are available for those interested in GHG.
Chart interpretation
Orange line in the middle is average of all industry postharvest operations (that data has been entered for). Blue points are the average values for the sites associated with the user that is logged in. If these points are outside the orange line in the green zone then their result is better than average; vice versa if inside the orange line in the red zone.

Clicking on the blue points leads to more detailed results including for individual sites (see example on next page).

Hovering over the blue points reveals additional context i.e. the number of operations that the average is based on.
Example of reporting for a postharvest user. Reporting menu allows for customisation of the reports e.g. for reporting results for a specific site. By default, the results reported initially are the averages of all factors e.g. all sites.
In this example, total GHG is shown but an individual component (e.g. fuel use) can also be reported.
Zespri dashboard
Welcome to the Kiwifruit Sustainability Dashboard

This tool allows Zespri to generate reports on key performance indicators relating to sustainability.

Industry averages, based on data directly entered by growers and postharvest operators, are currently available for the following:

- **Orchards** - Financial (OGR, expenses), production, environmental (spray use, soil quality, water use, soil-applied N) and social (community support)

- **Postharvest** - Financial (electricity cost), environmental (electricity use, waste and fuel consumption) and social (community support)

To start accessing this information, click on the 'Reports' tab above.

This is a prototype, underpinned by orchard and postharvest dashboard tools currently being developed. It will be developed further over the next 2 to 3 years, during which time the design, content and functionality is expected to change significantly based on industry feedback.

The NZ Sustainability Dashboard tools are being developed as part of the New Zealand Sustainability Dashboard project, funded by MBIE and supported by a number of kiwifruit partners (shown below).
At the moment, the Zespri dashboard reports the averages of data provided by the orchard dashboard. Later, it is envisaged that measures of variability will be added e.g. quartiles.

User can select ‘Orchard’ or ‘Postharvest’ system then the indicators they are interested in.
An example of postharvest reporting available to a Zespri user; the industry average as well as the min and max are available here.