

Irrigation GMP Expectation (FEP)	Practical Interpretation of Spray Irrigation GMP Expectation	Evidence Required for Audit
<p>Target 1: Design & Installation New spray irrigation systems are designed and installed in accordance with industry codes of practice and standards</p> <p><i>Note: New irrigation systems include all new developments, and existing system expansions or redevelopments.</i></p>	<ol style="list-style-type: none"> 1. An Irrigation Design accredited company and/ or a certified irrigation designer is used. 2. A 'wet' commissioning test is undertaken post installation and changes made accordingly. The Commissioning test must include pressure, flow and a nozzle check, alongside a comparison of irrigation depth in relation to the soil water holding capacity. The INZ commissioning template provides a minimum standard for this. 	<ol style="list-style-type: none"> 1. Evidence provided that the Irrigation designer is design certified and/ or the Irrigation Design company is accredited. 2. Commissioning test/ re-test report.
<p>Target 2: Performance Assessment irrigation system performance is assessed annually, and maintenance carried out accordingly</p>	<ol style="list-style-type: none"> 1. For each irrigation system, the appropriate pre-season checks are undertaken annually. Maintenance is undertaken accordingly to ensure there is no decline in irrigation system performance over time. 2. For each irrigation system a 'Bucket-test' or 'Full-evaluation' is undertaken a minimum of every 3-years and changes made if poor performance is found. The bucket test amber traffic light is the trigger for poor performance (+/- 25% application depth and <0.80 DU/ EU). 	<ol style="list-style-type: none"> 1. Evidence provided of a pre-season check and any changes made post this (the INZ pre-season check templates provide a minimum standard for this). 2. 'Bucket-test' or 'Full-evaluation' report. If poor performance is found, then a 're-test' report is required.

<p>Target 3: Scheduling The timing and depth of the irrigation applied takes account of crop requirements and is justified through soil moisture monitoring or soil water budgets and climatic information</p>	<p>There is a clear irrigation scheduling decision-making process in place which includes</p> <p>A. Knowledge of:</p> <ol style="list-style-type: none"> 1. The soil(s) water holding capacity/ plant available water (the use of S-map values is acceptable for this) 2. The trigger point(s) used for irrigation 3. The irrigation depth applied 4. Crop demand <p>B. Using:</p> <ol style="list-style-type: none"> 5. Forecast weather information <p>The decision-making process needs to be clearly shown for each irrigation management zone</p> <p>The decision-making process achieves an irrigation efficiency of 80%. Efficiency is determined by relating the soil(s) full-point and irrigation trigger (Readily Available Water) to the irrigation depth applied.</p> <p>$= (\text{Readily Available Water} / \text{Irrigation Depth}) \times 100$</p>	<ol style="list-style-type: none"> 1. <i>Soil moisture monitoring/ other sensing methodologies</i> A trace or data is provided, and the farmer/ grower can describe their irrigation decision-making process in relation to it. 2. <i>Water budget</i> Data is provided, and the farmer/ grower can describe their irrigation decision-making process in relation to it, including the climate data set used. 3. <i>Plant and soil observations</i> Records are provided, and the farmer/grower can describe their irrigation decision-making process in relation to these. <p>Note: Plant and soil observations are acceptable to be used in combination with methods 1 or 2 above, but they are not acceptable as a stand-alone method across all the farms irrigation management zones.</p>
<p>Target 4: Training Staff are trained in the operation, maintenance and use of irrigation systems.</p>	<ol style="list-style-type: none"> 1. There is an irrigation operation and maintenance manual for the farm. 2. Staff have been trained internally in each irrigation systems operation and maintenance. 3. The irrigation decision maker has attended an Irrigation '101' workshop. At a minimum this must cover soil water, plant water use and irrigation scheduling. 	<ol style="list-style-type: none"> 1. Operation and maintenance manual sighted, and evidence provided to demonstrate it is being actively used (a maintenance log for example). 2. Evidence of company staff training programme 3. Certificate of attendance for irrigation '101' workshop