**User Story for the PestIQ Application**

As an agricultural professional (grower, agronomist, or field representative) I want to:

* Manage, analyze, and compare pesticide products data
* Calculate environmental impacts
* Make seasonal pesticide spray plans

All while being informed about their environmental impact, so that I can make informed decisions about crop protection while minimizing environmental impacts.

**Detailed User Story:**

**Background:**

The PestIQ application is a comprehensive pesticide management tool that helps agricultural professionals view what control products (pesticides) are available in their region, compare them, calculate Environmental Impact Quotient (EIQ) values, and make seasonal spray plans.

**Core Features & User Goals:**

**1. Product Management & Comparison**

* **As a user, I want to** browse and filter pesticide products by name, type, active ingredient, etc.
* **So that** I can find products that suit my needs, and compare different commercial formulations to find ones that are equals, and pick the cheapest
* **Acceptance Criteria:**
* I can view a comprehensive list of pesticide products (only those approved in my region)
* I can filter products by any attribute I want
* I can compare multiple products side-by-side viewing quick fact sheets
* I can see product details including active ingredients, concentrations, application rates, etc.

**2. EIQ Calculator**

* **As a user, I want to** calculate the Environmental Impact Quotient (EIQ) for individual products, or compare multiple products, for different application parameters
* **So that** I can assess the environmental impact of different options
* **Acceptance Criteria:**
* I can search and select a pesticide product from the database
* I can input application parameters (rate, unit of measure, number of applications)
* I can view the calculated Field EIQ value with visual results
* I can compare EIQ values between multiple products simultaneously

**3. Seasonal Planning with Scenarios**

* **As a user, I want to** create and manage seasonal application scenarios, from scratch or importing plans from a previous season as a starting point, and export my works
* **So that** I can plan different crop protection strategies and compare their environmental impact, ask my chem retailer for quotes on prices of different plans, and reduce my environmental impact
* **Acceptance Criteria:**
* I can create multiple scenarios with different names
* I can add multiple pesticide applications to each scenario
* I can specify application dates, products, rates, and methods
* I can import/export scenarios from Excel files
* I can clone and modify existing scenarios
* I can compare total EIQ values across different scenarios
* I can see where I stand in the RegenAg framework

**4. User Preferences & Configuration**

* **As a user, I want to** set my location and sowing parameters
* **So that** the application shows relevant products and calculates impacts correctly
* **Acceptance Criteria:**
* I can set my country and region preferences
* My preferences are saved and applied across all features
* I can set my preferences once and they persist

**Technical Requirements:**

**Data Management:**

* Product database with active ingredient information
* EIQ calculation engine with UOM standardization
* Scenario storage and management
* User preference persistence

**User Interface:**

* As intuitive as possible
* Color-coded EIQ risk levels (green/yellow/red)
* Responsive and quick
* Clear data presentation for easy understanding

**Calculations:**

* Accurate EIQ calculations using the given parameters
* Support for multiple units of measure with conversion
* Total EIQ aggregation for scenarios

**Success Metrics:**

* Users can successfully calculate EIQ values for products
* Users can create and compare multiple seasonal scenarios
* Users can import/export data without errors
* Application provides accurate environmental impact assessments
* Interface is intuitive and requires minimal to no training
* All workflows regarding pesticide planning can be performed within the app

**Other Requirements:**

* Application should feel fast and responsive
* Interface should be super accessible and user-friendly
* Application **must** work offline with local data storage