

SchedulePro New Features

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1. Version 12.2 New Features

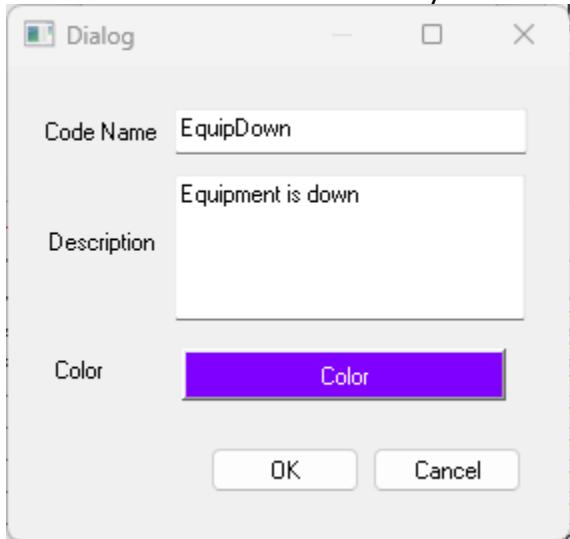
1.1. Automatic Attention Codes

Attention codes are user defined codes that indicate some condition in an operation. SchedulePro can automatically assign an attention code to scheduled operations that are delayed from their originally scheduled time.

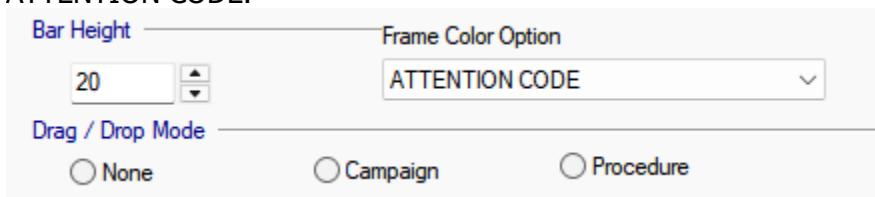
Use the new **Automatic Attention Code** setting in an operation to apply this feature.

1.2. Attention Codes Visible in EOC

User-defined Attention Codes may now have a color in addition to a name and description.



For operations with an attention code, the color will appear as the operation frame color in the EOC when the operation has the attention code and when the frame color option in the chart style settings is set to ATTENTION CODE.



1.3. Export to SCP Cloud Planning (experimental) Application

Users testing the new SchedulePro Cloud Planning application may export a SchedulePro file to a text format (json) suitable for upload to SCP Cloud planning.

Contact Intelligen for more information.

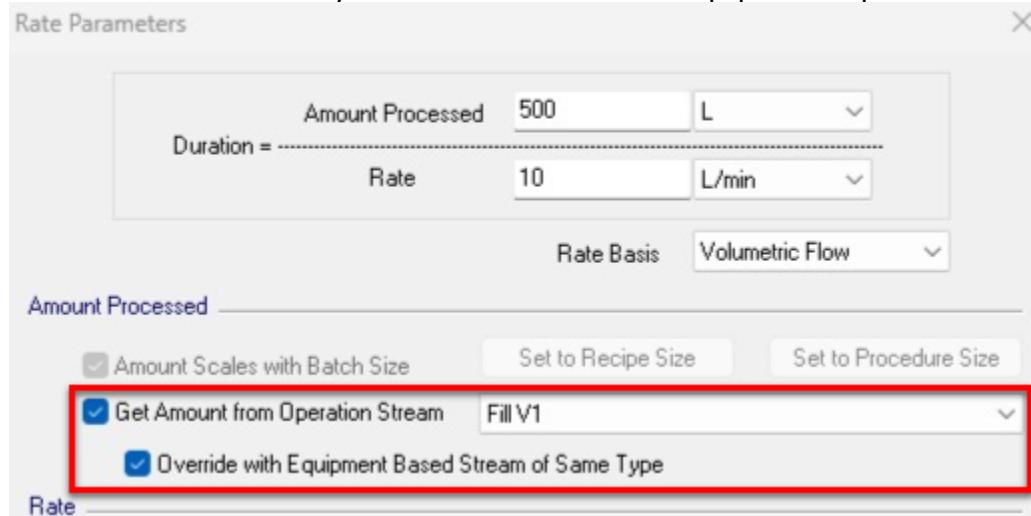
1.4. Gantt Chart Descriptions Improved

The description field in the Gantt chart reflects the recipe description fields in the recipe Gantt chart and the operation comments for schedule Gantt chart.

2. Version12.1 New Features

2.1. Duration Amount from Equipment-Dependent Stream

A rate-based duration may take the amount from an equipment-dependent stream:



2.2. MS Access Database Report Includes Working Duration

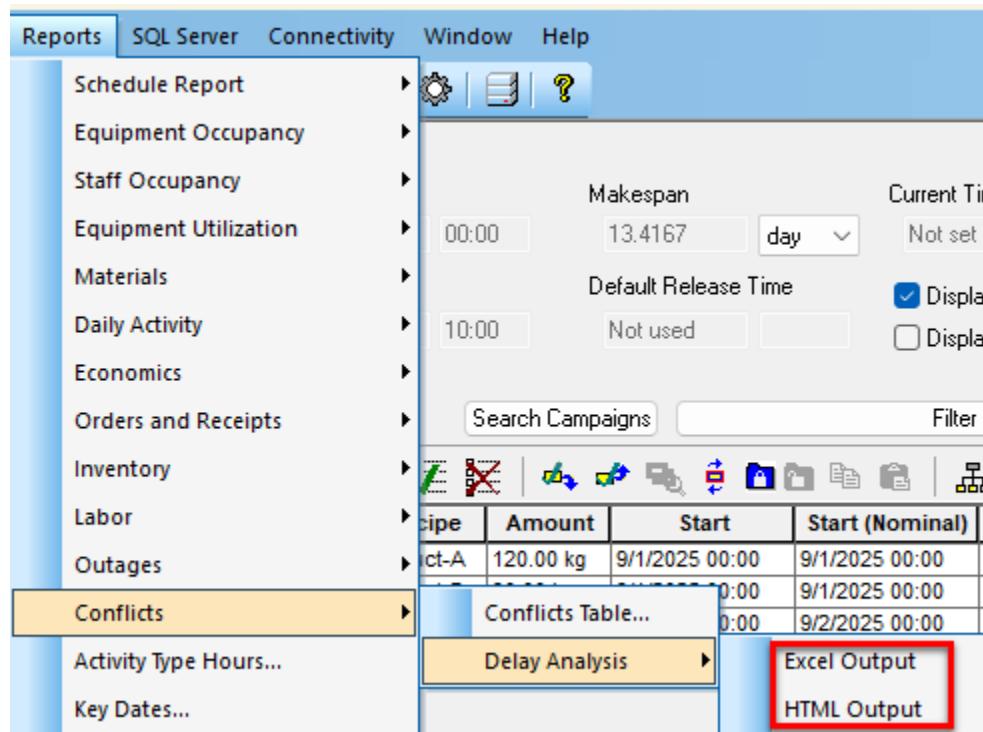
The MDB Report (Connectivity/MDB Report), now includes both the total duration (including breaks) and the working duration for operations.

2.3. Delete Batch Onwards

The "Delete Batch Onwards" command from an operation will now delete all linked operations even if they are earlier.

2.4. Batch Delay Reporting

The batch delay analysis report in standard HTML format or in Excel displays the equipment resources that are linked to batch delays beyond the requested cycle time. This can help identify bottlenecks where there are multiple products or when equipment is reused among several procedures.

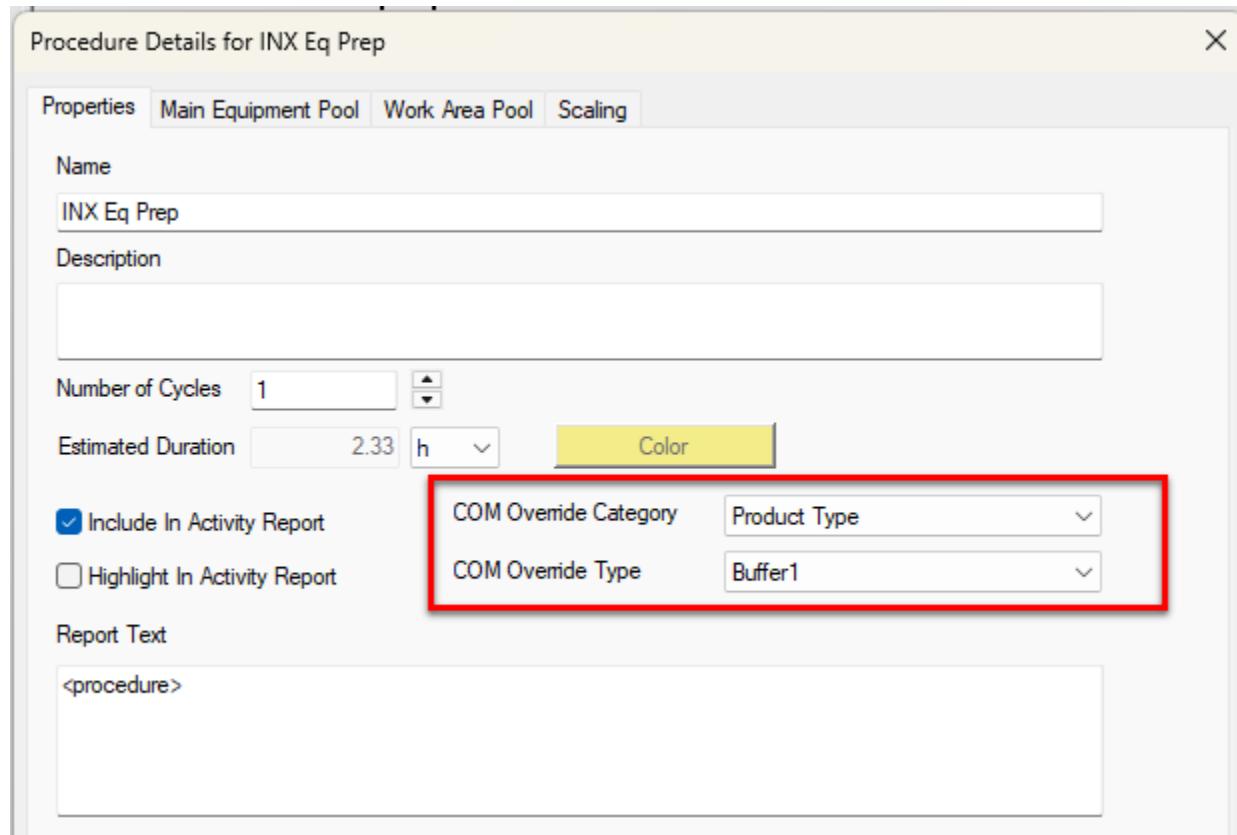


2.5. Editing Resources for Scheduled Campaigns

Pooled resources (equipment, staff and work areas) may be modified at the campaign level for scheduled campaigns. All batches in the campaign will get the selected resources.

2.6. COM Type Classification may be overridden at the Procedure Level

The COM classification for one category may be overridden at the procedure level. This may be useful in recipes that include the making of intermediate products.



2.7. Conditional Operations - New Options

Conditional Operations now have the following new options:

- Usage count based on operation type -- the count will include only usages of the specified type.
- Execution based on change in Recipe/SKU COM type for a selected category.

Operation Conditional Scheduling

Execute this operation if ANY of the following are true

Conditions Based on : Main Equipment Auxiliary Equipment

Always Execute 1st Time

Offset for count-based conditions

Execute Based on Equipment Use Count Operation Type Selection
 Count Procedures/Aux Ops Count Operations of Selected Type
 Any Type

Execute Based on Time Since Last Operation or type:
 Usage Time Elapsed Time

Execute if Equipment is in use for

Execute Based on Equipment Idle Time Since Last Use
Execute if Equipment Has Been Idle for

Execute Based on Batch Count in Campaign

Execute if Recipe/SKU Type Changes Category

Activated by User Default Active (normally on)

Link to Another Conditional Operation
Operation (Must be conditional and not linked)

OK Cancel

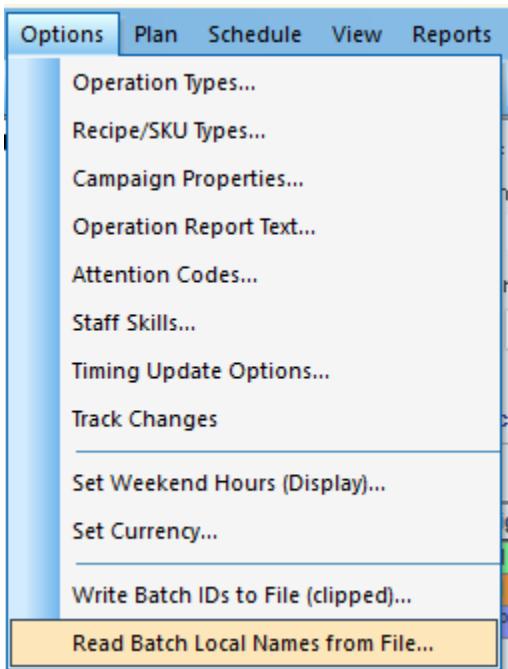
2.8. Batches Have Ediable Local Names

Batches have an editable local name for display purposes. Internal an extra-reference links still use the Batch Id. Local names may be edited directly or imported from a text file.

Edit Scheduled Batch

Schedule Resources Comments Messages Economics

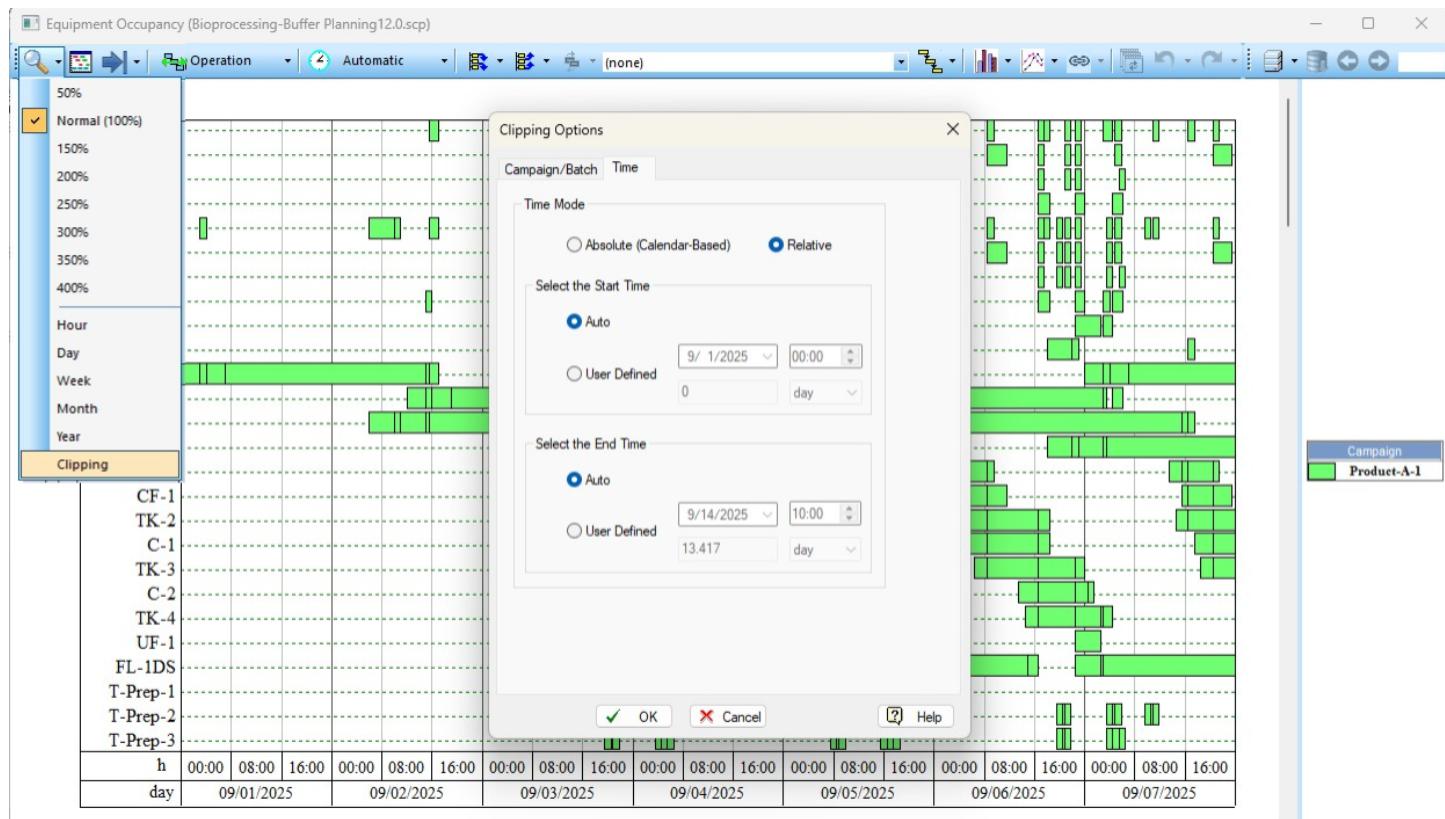
Local Name	<input type="text" value="Product-A-1-1"/>
Batch ID	<input type="text" value="Product-A-1-1"/> <input type="checkbox"/> Edit
Campaign ID	<input type="text" value="Product-A-1"/>
Recipe	<input type="text" value="Product-A"/>
Color	<input type="text" value="Display Color"/> 
BEN	<input type="text"/>
<input type="button" value="Activate Inactive Operations"/>	



SchedulePro will keep the local names after rescheduling a campaign.

2.9. The Equipment Occupancy Chart Now Respects Time-Clipping

The Equipment Occupancy Chart can now use time clipping to focus on a particular time range.



3. Version 12.0 New Features

3.1. Multi-Event Campaign Scheduling

Event based campaigns can be based on the earliest or latest of multiple inventory events.



Users may choose whether to use the latest or earliest of all the inventory events to trigger a campaign.

3.2. Menus Reorganized

The main menus have been reorganized and non-functional or obsolete options have been removed.

3.3. Workareas May Now Have Suites

Suites now apply to work area resources. They are restricted by suites in the same way that equipment are. This feature may be used to ensure that incompatible batches do not concurrently share suites.

Work Area Properties for Purification 1 X

Properties

Identification

Name: Purification 1 Type: Work Area

Description:

Facility

Downstream Facility: Suite Suite: Suite1

Parallel Task Execution

Can Execute Multiple Parallel Procedures/Operations

Has Limit on Number of Parallel Uses: 1

Work Area Usage Policy

Any Activities

Display

Display in Charts

OK Cancel Help

3.4. Improved Cycle Time Estimat

The cycle-time for a recipe or campaign may be calculated by one of the following methods:

- The original gross estimate which simply estimates the procedure with the longest effective duration (duration divided by the number of available equipment units).
- Algorithmic which accounts for repeated equipment usage and (optionally) staff and auxiliary equipment.
- The Optimization method which is similar to the algorithmic method. The user may select the built-in (SCIP) optimization solver or if GAMS is available, one of the several solvers supported by GAMS.

When estimating the cycle time for a campaign, there is an option to "Take Results and Exit," which will apply the cycle time and any equipment assignments to the campaign.

3.5. Improved Staff Skill Assignment

A simple check-box interface replaces the former tool for assigning skills to staff.

Staff Properties

Identification

Name: Charles
In Facility: Formulations Plant
Description:
Phone:

Parallel Task Execution

Can Execute Multiple Parallel Operations
Maximum Number of Parallel Tasks: 1

Display

Display in charts

Cost

Hourly Usage Rate: \$ 0.00

Should be sent notification email at:

Add Staff Skill

Coating
 Dispensing
 Blending
 Drying FBD
 Encapsulation
 Milling HSMG
 Milling Wet Mill
 Cleaning
 Tabletting
 skill1
 skill2
 skill3

OK Cancel

3.6. Schedule Evaluation Includes Run Rate and Cycle Time

For SKU campaigns and recipes with a batch size, the run rate in units of product per year is now included.

Schedule Evaluation

Feasibility Statistics

Start / End / Makespan

Start	9/ 1/2025	00:00
End	9/11/2025	22:30
Makespan	10.94	day
Average Lateness	0.000	

Campaign Flowtime / Lateness

Show Statistics Per Batch

Campaign	Flowtime (day)	Lateness (day)	Run Rate	Avg Cycle Time
Product-B-1	10.94	n/a	500.57 kg/yr	34.00 h
INX Regen Prep-1	9.56	n/a	190849.67 L/yr	44.61 h

Number of Campaigns Due: 0

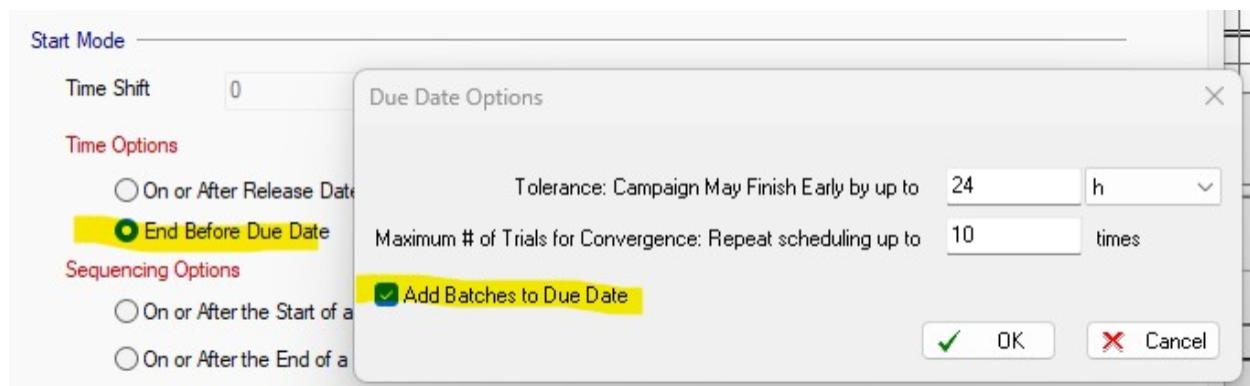
Number of Late Campaigns: 0

Number of Early Campaigns: 0

OK Cancel Help

3.7. Schedule to Due Date by Adding Batches

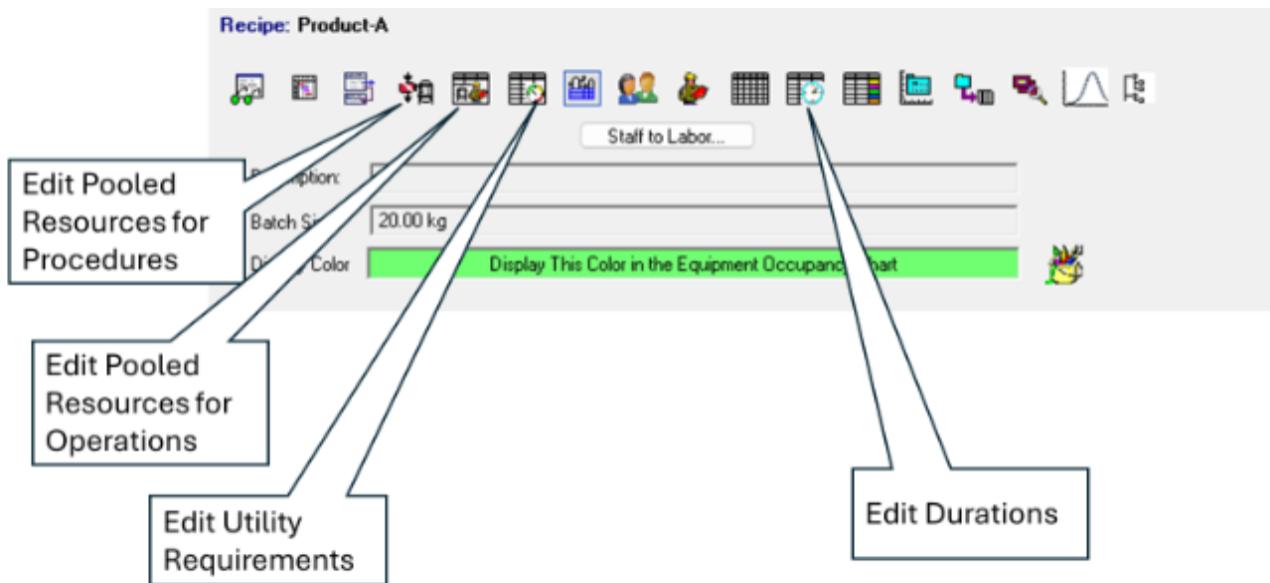
SchedulePro campaigns now have an option to add batches until the due date.



3.8. Recipe-Wide Editing Options

The recipe page includes new options for editing the following:

- Procedure equipment and work areas
- Operation auxiliary equipment
- Operation utilities
- Operation durations



3.9. Operation Durations Based on Fill/Empty Inventory Streams

The durations for rate-based operations may be calculated based on the amount in a stream that sets a final inventory. The amount will be calculated when the operation is scheduled. The duration is not automatically updated for later (lower priority) batches that might affect the inventory.

3.10. Report by Staff Option in Daily Activity Report

The daily activity report can now be displayed for selected staff. Staff may be filtered with Contents and

Ordering options.

Report Options

Economic Report Options		Reorder Report Options		Inventory Report Options			
Send to Personal Calendars	Labor Report Options	Outage Report	Email Change Notifications	QC Reporting			
Schedule	Equipment Occupancy	Equipment Utilization	Staff	Materials	Daily Activity	Gantt	Recipe
Heading <input type="text"/>							
<input checked="" type="checkbox"/> Use Date Range in Title				<input type="checkbox"/> Show Report On Exit			
Reporting Level				Report Format			
<input type="radio"/> Project <input type="radio"/> Campaign <input type="radio"/> Batch <input type="radio"/> Procedure <input checked="" type="radio"/> Operation				<input type="radio"/> Daily <input type="text" value="2"/> Days/row <input type="radio"/> Weekly <input checked="" type="radio"/> Month Calendar			
<input checked="" type="checkbox"/> Use Recipe Settings When Available							

3.11. Batch Color Option in Daily Activity Report

The Daily Activity Report now has a Use Batch Color option. Entries will be shown in the same batch color that is displayed in the Equipment Occupancy Chart. This option is exclusive with the Operation Colors option. If no option is chosen, shift colors are used.

Color by Shift				
	Start	Duration	Time Units	Color (Click to Change)
Shift 1	08:00	<input type="button"/>	8.00	<input type="color" value="black"/>
Shift 2	16:00	<input type="button"/>	8.00	<input type="color" value="green"/>
Shift 3	00:00	<input type="button"/>	8.00	<input type="color" value="blue"/>
<input type="checkbox"/> Use Batch Colors				
Color for Highlighted (Key) Activities <input type="color" value="black"/>				
<input type="checkbox"/> Use Operation Colors (Takes Priority over Other Color Schemes)				

3.12. Change from Baseline Reporting in Schedule Report

If the Track Changes option is activated, changes from the baseline may be reflected in the Schedule report. The new (current) values are shown in color while the prior values remain in black.

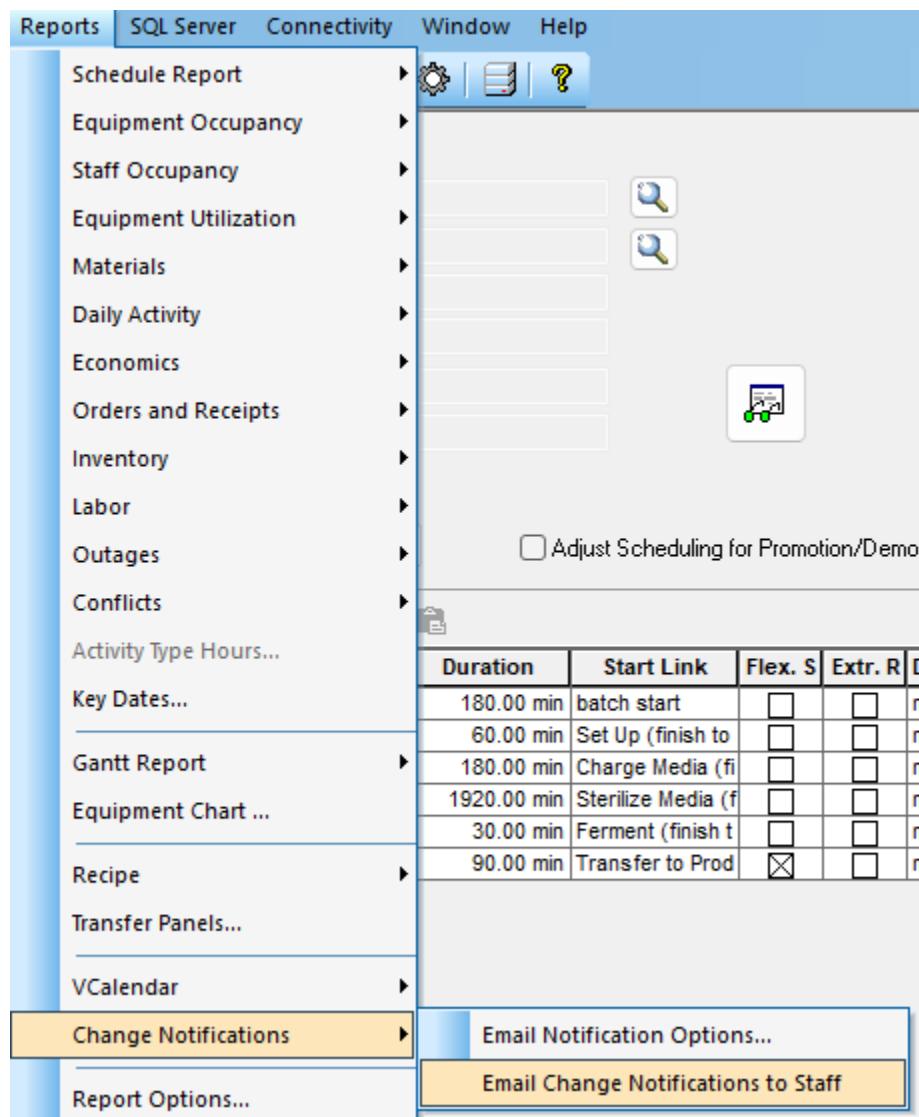
Campaign: Product-A-1, Recipe: Product-A, Duration: 13.188 day

Batch	Procedure	Operation	Phase ID	Phase Entry ID	Start		End		Prev Start		Prev End	
Product-A-1-3	Seed Fermentation	Set Up			Thursday	9/19/2024 02:40	Thursday	9/19/2024 05:40	Thursday	9/19/2024 00:00	Thursday	9/19/2024
Product-A-1-3	Seed Fermentation	Charge Media			Thursday	9/19/2024 05:40	Thursday	9/19/2024 06:40	Thursday	9/19/2024 03:00	Thursday	9/19/2024
Product-A-1-3	Seed Fermentation	Sterilize Media			Thursday	9/19/2024 06:40	Thursday	9/19/2024 09:40	Thursday	9/19/2024 04:00	Thursday	9/19/2024

3.13. Staff May be Emailed Change Notifications Based on Changes from Baseline

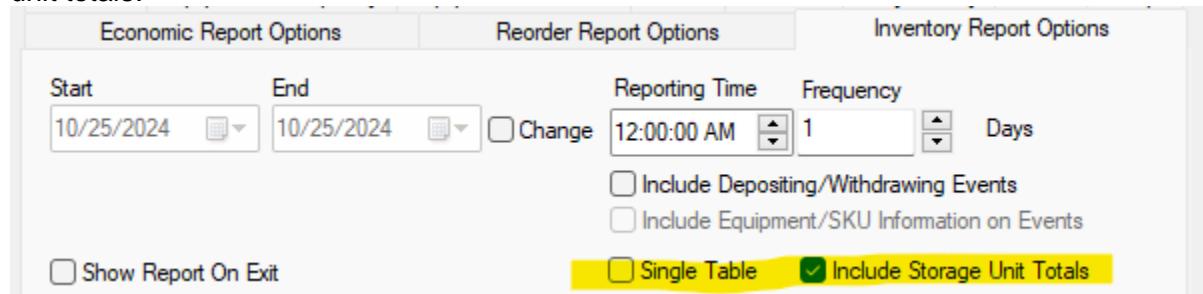
There is a new option to email change notifications. This feature works with the staff email address property and with the change tracking features. Staff who are assigned to or de-assigned from an operation that has changed from its last baseline will be sent notifications. These emails are sent on-demand. The VCalendar

email feature now uses the SMTP email settings which are found under SQL Server Settings or Reports/Change Notifications/Email Notification Options.



3.14. Inventory Report Single Table Option

The inventory report now has options to display as a single table as well as an option to exclude the storage unit totals.



3.15. New Fields Included in the Excel Report

The Excel Report contains the operation data specified in the Schedule Report options. The fields now include:

- Campaign

- Recipe
- Batch
- Procedure
- Operation
- Start/End
- Main Equipment
- Comments
- Auxiliary Equipment
- Staff
- Labor