

Dear editor and reviewers,

Several changes were made to the paper in order to take into account the comments of reviewers according to editor's instructions. We provide for each comment a response:

Reviewer 1:

p5.l23 UppaAal >> UPPAAL

The typo has been corrected. Sorry for the mistakes.

p5.l50 two quality >> qualities

The typo has been corrected. Sorry for the mistakes.

p6.l45 The paragraph "Yet ..." seems to be copied from the review response. Thank you for the explanation, but the paragraph should probably be deleted from here.

We agree with the reviewer. The paragraph was misplaced and a significant part of it was useless. We deleted it from page 6 and we kept a part* of it in page 15 to avoid any ambiguity.

* As said in section \ref{DHPdetaileddefinition}, switching to mixed mode once R_{min} has been reached can only reduce harvest time, so forcing the switch as soon as it can be done has no impact on optimal cost compared to a solution in which the switch to non differential harvest would be done at any moment. Yet, forcing the switch has an impact on the complexity of model-checking. This is why the switch is forced at this time in the model.

p12.l24 Here the text suggests that R_{min} is expressed as a percentage, but in the model it seems to be used as an absolute quantity of grapes.

This is right. The terminology of R_{min} has been checked everywhere in the article. In fact, we have modified R_{min} as a percentage in the definition of the problem: "The agronomic objective of the DHP is to collect at least a percentage R_{min} of the A-grapes available in the field."

p16.l42 high raise >> high rise

This typo has been corrected.

p19.l6 results >> result

This typo has been corrected.

p19.l7 finds >> find

We think that you mean find >> finds. This is right, the typo has been corrected.

p19.l10 equivalents >> equivalent

This typo has been corrected.

p22.11 much more better >> much better

This error has been corrected.

Reviewer 2:

I nevertheless think that a discussion is still missing about the choice of having fixed durations for all events, and its implications, both from the modelling point of view (is it justified by the actual application? Would some intervals improve the model precision?) and from the verification point of view (here I think it should be explicitly mentioned that timed automata can be avoided altogether with fixed durations, and that the problem simplifies to classical optimal planning).

The 5 lines added in the conclusion do not address this specific issue.

We added a new short section that discusses this issue before the conclusion. We explain what are the durations that can vary. And we tell in that section that PDDL capable solvers may be tried up on this problem.

Also, in the conclusion, we suggested as potential useful research a comparison with a PDDL capable solver. We suggested HSP because using a very recent planner may yield other issues related to modern planning features which go beyond fast forward search and would limit comparison interest to mere time performance issues.

Overall, we thank the reviewer for raising this question of expressiveness and alternate tooling. This also helped us to precise even more clearly our objectives in the paper.

One additional typo: p.23, reference 3: there is an extra space after Olivier Naud

This typo has been corrected.

We are at your disposal for any questions, and for enhancements that you would require.

On behalf of co-authors

Rim Saddem-Yagoubi