Message

From: DIRKS, RICHARD C [AG/1000] [/O=MONSANTO/OU=NA-1000-01/CN=RECIPIENTS/CN=214797]
Sent: 4/25/2002 4:00:15 PM
To: HEYDENS, WILLIAM F [AG/1000] [william.f.heyden[redacted]]; FARMER, DONNA R [AG/1000] [donna.r.farmer[redacted]
Subject: RE: European Commission Endocrine Disrupters developments (1)

I'd be interested in participating when you get together.

Rick

-----Original Message-----
From: HEYDENS, WILLIAM F [AG/1000]
Sent: Thursday, April 25, 2002 10:47 AM
To: FARMER, DONNA R [AG/1000]
Cc: DIRKS, RICHARD C [AG/1000]
Subject: RE: European Commission Endocrine Disrupters developments (1)

Donna,

Your last comment hits exactly where I am coming from. We discussed the situation with Holson and DeSesso and concluded, not surprisingly, that we are in pretty good shape with glyphosate but vulnerable with surfactants. What I've been hearing from you is that this continues to be the case with these studies - Glyphosate is OK but the formulated product (and thus the surfactant) does the damage. We had a low-risk strategy to generically deal with the issue but couldn't implement it for budgetary reasons. In the meantime, the studies with endocrine/repro endpoints keep coming, so we should re-visit the issue. Can we scale back a repro study to make it budgetarily palatable? Is there something less expensive we can do? Or do we stand pat and take our lumps as they come? Unfortunately, we don't get to choose what gets dignified outside our 4 walls and what doesn't. We had a close call vis-a-vis mutagenicity/EU review a couple years ago. If we again decide to stay the course, I want this to be a weel-reasoned, conscious & documented decision.

Bill

-----Original Message-----
From: FARMER, DONNA R [AG/1000]
Sent: Thursday, April 25, 2002 8:19 AM
To: HEYDENS, WILLIAM F [AG/1000]
Cc: DIRKS, RICHARD C [AG/1000]
Subject: RE: European Commission Endocrine Disrupters developments (1)

Bill,

I have been aware of this BKH list since back in December. If you remember this is the one I kept asking Mark and Bill about and they kept saying glyphosate was not on the list anymore. I don't think they realized that this was a new list. We have had copies of all the BKH reports out on the GGTT folder since that time. My proposal to Bill is going to be even though the ECPA says to do nothing - we should update our response to the first BKH report and have it waiting in the wings.

These ad hoc non-standard studies are already an agenda item for GGRST.

I will be happy to discuss the free studies with you later today.

One study - the sea urchin claims cell cycle changes and discusses these with cancer and oh by the way we found it with Roundup. The neuroblastoma authors claim these results a the cellular may have implications as to why some people are more sensitive to environmental toxins. So they are all not claiming the same endpoint. The interest point is glyphosate all basicially had no effect the formulated product did - does this point us to the coformulants - sufactants?. The repeat Stocco work with the addition of examining how common household and personal care products behave in that in vitro assay could be exported to these other in vitro assays.

We also need to be aware of the studies going on in the ecotox arena - Steve is closely following them particularly the work on frogs with Canadians using our Canadian formulations - one of those a student's research had some endocrine endpoints.

In my mind the messages are - Exhaustive regulatory testing using rigorous time served protocols to international standards have failed to reveal any untoward health effects predicitve of cancer for man.

We can work this same message for the other free studies. And that these ad hoc non-standard, unvalidated models using unrealistic dose levels have no currency with regulatory or serious scientists. And single, stand-alone in vitro findings are not supportive of predictions for adverse effects on human health.

I think we should be cautious in dignifying every alleged finding by doing more work, publishing significantly or being seen to over react to these very small papers, which in the scheme of things may just blips. We need to look at each of them on a case by case basis as well as seeing if a pattern is beginning to form for a "weight-of-evidence" like the genotox. We have had about 4 of these free studies every year now - only some get highlighted internally and externally.

This does not mean however we do nothing. In my mind the stewardship program for glyphosate has a four-part strategy:
1) publish relevant toxicologic, ecotoxicological and human information about glyphosate in the peer reviewed literature - like Williams, Geisy, Acquavella
2) review the literature regularly for glyphosate findings and respond when appropriate - Hardell, Stocco,Barbosa, Daruich, Arbuckle etc.
3) establish a scientific network of prestigious scientists in key world areas and provide them the latest information about glyphosate - we have epi, tox, env. exp., repro/dev, clincial tox experts
4) assess data gaps and fund appropriate research - FFES, MON 35050, Stocco

Another thing I would like to discuss is how can we improve our intelligence on finding out about these studies in advance. Kathy is now doing lit searches of web sites, publishers sites on the web etc. Benoit and Francesca knew about the sea urchin study for two years. Mark fortuantely saw the the neuroblastoma paper at the British tox meetings. We can get response ready and distribute it proactively.

Regarding ED - remember we worked through a strategy with Joe Holson and John DeSesson - writing with them a risk assessment paper on repro/deve/ed. The repeat Stocco study was one action, one gen with a surfactant was another. We have not budgeted for that. Let's revisit this as well.

Donna

-----Original Message-----
From: HEYDENS, WILLIAM F [AG/1000]
Sent: Thursday, April 25, 2002 7:20 AM
To: FARMER, DONNA R [AG/1000]
Cc: DIRKS, RICHARD C [AG/1000]
Subject: RE: European Commission Endocrine Disrupters developments (1)

Donna,

Here we go again. This, coupled with Stocco and the 3 or 4 new literaure studies over the last couple weeks indicates it's time to take a deeper look at all this.

Let's you and I sit down with all the new "free studies" tomorrow. I want to understand what they all say, and see if there is anything more we should be doing besides the usual "pay no attention to the man behind the curtain".

Also, this is probably a good agenda item for your GGRST meeting next week.

Even though no testing requirements have been implemented for several years now, this damn endocrine crap just doesn't go away, does it.

Bill

-----Original Message-----
From: GRAHAM, WILLIAM [AG/8050]
Sent: Wednesday, April 24, 2002 8:31 AM
To: MARTENS, MARK A [AG/5040]; GARNETT, RICHARD P [AG/5040]; CARROLL, MICHAEL J [AG/8050]
Cc: FARMER, DONNA R [AG/1000]; HEYDENS, WILLIAM F [AG/1000]
Subject: FW: European Commission Endocrine Disrupters developments (1)

Please note that BKH have nominated Glyphosate in their list of 114 compounds for further review but that ECPA recommends we do nothing. Alachlor and Acetochlor are on the list of 30 from year 2000. Please note;

"Communication
Reports of BKH and WRc will made be publicly available on the EU Commission webside in the second half of 2002. The Commission has contracted the development of their own website approach on endocrine disruption which will be targeted at consumers and the general public. It will show which substances under debate are present in specific consumer products and give advise on consumer reactions."

Bill

-----Original Message-----
From: Stuart Rutherford [mailto:stuart.rutherford[redacted]
Sent: Friday, April 19, 2002 7:30 PM
To: 'peter.campbell@[redacted] 'joseph.j.dulka@[redacted]
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WEBB Simon (E-mail)
Subject: European Commission Endocrine Disrupters developments (1)

Dear Env EG, Tox EG, RIPT, (& Reg EG for info),

I wish to inform you that DG Envt is intending to carry out an exercise aimed at prioritising substances which may have Endocrine Disrupting effects. The exercise is being carried out with the assistance of BKH consultants. Much of the information below is quite politically sensitive, so please BE CAREFUL about any further distribution.

Attachments below are as follows:

1. Report by ECPA representative Gernot Klotz (Bayer) from the Commission stakeholder meeting on EDs of 21-22 Feb 2002 (Gernot is happy to answer any questions on that, his contact details are in the document).
2. General report on the meeting on EDs of 21-22 Feb 2002 by CEFIC representative Simon Webb
3. New List of 114 PPPs for which BKH has requested all parties to submit data (as far as possible, ECPA has added columns giving the status of the substances under 91/414, approx 50 are pending or notified). Note for info, there is also a separate list of 90 general chemicals on which they are requesting data.
4. List of 30 substances for which ECPA (via CEFIC) previously submitted data on ED effects to the Commission & BKH in the summer of 1999 & summer 2000 respectively.
5. "Instructions" for submission of data prepared by BKH to complement the list of 114 PPPs above (this is for info, as noted below... please DO NOT submit data to Commission or BKH for the moment)

Points to be aware of/ questions/ actions for you to consider etc:

1. At this stage ECPA STRONGLY REQUESTS THAT YOU DO NOT submit data as requested by BKH. Reason: the BKH approach is rather flawed, even one study showing ED potential from literature will be sufficient to get the substance put on a subsequent list of substances for further evaluation. Therefore, regardless of quality, there appears to be NO benefit to submitting data at this stage. On the contrary, it could be argued by other parties that "ALL data has been considered, and the conclusion is that there is a risk of ED effects". So...better to keep good quality data for later.
2. Be aware that even if we do not cooperate, they can still do the exercise based on Memmber State/ NGO/ literature data.
3. You may wish to internally start building a "defence" dossier on ED potential for "your" compounds (you can identify these from the 3rd attachment).
4. Even though this whole exercise is being positioned as a "prioritisation exercise", following which all policy decisions/ measures would be introduced via the specific legislation (i.e. in depth evaluation & introduction of appropriate policy measures under 91/414 for PPPs), the similar experience we had with the Water Framerwork Priority List, and subsequent attempts to identify substances for phase-out on the basis of intrinsic hazard alone serve as a strong warning flag about what the final outcome could be if we are not careful. Critical question is whether there is any chance that the resulting list could be sent to the European Parliament for an opinion - if there is, then there is a significant chance that the Water Framework experience could be repeated.
5. CEFIC (including ECPA as member of group) is seeking to improve the BKH approach, and to weigh potential effects data in a more sophisticated "weight of evidence" approach. If the Commission/ BKH accept this, we will reconsider our position, but the fundamental concern about a "prioritisation scheme" on PPPs being carried out separately & in parallel to the 91/414 scheme remains no matter how the BKH approach may be improved. A policy decision on whether to cooperate or not would be required if the BKH approach is significantly improved.
6. I've spoken to Canice Nolan at DG Sanco to see to what extent DG Env is keeping them informed, and what their view is. Very little info seems to be being passed to Sanco (but we still need to check in case Wolf Martin Maier is being informed). The fundamental opinion of C. Nolan was: if it is just a prioritisation setting exercise, and DG Env has a mandate via the EDs strategy communication, then there is little Sanco can do to stop them. HOWEVER, when it comes to proper evaluation & policy decisions, 91/414 must be considered the state of the art and take precedence over other evaluations. ...Perhaps that might be the best point for companies to submit quality dossiers addressing ED effect issues?
7. In addition to the BKH exercise, the Commission has also identified ~ 12 substances (known as 9+3) which are not covered by specific EU legislation. WRc has been contracted to develop an ED evaluation scheme for those. WRc's work is being positioned as "generic" & applicable for all evaluations (so far a "discussion document" has been prepared by WRc). Therefore, it is not inconceivable that DG Env may try to hand Sanco a list of priority ED PPPs coming out of the BKH process, AND a scheme by which they suggest they should be evaluated. At the very least, the WRc approach (& any developed OECD protocols) will have a strong influence on the approach which the 91/414 experts take.
8. Copies of the BkH & WRc schemes, together with CEFIC comments on them, will be e-mailed around by S. Rutherford in a separate message.

Best regards,

Stuart

<<003_02.doc>> <<Endocrine Disruption Stakeholder February 2002.doc>> <<BKH list of 114 pesticides 19.4.02.doc>> <<Commission - BKH Project on Endocrine Discrupters.doc>> <<Instructions for filling in the ED Database.doc>>

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

TRIAL EXHIBIT 442

Case No. 3:16-cv-0525-VC

Date Entered _____

By _____
Deputy Clerk