CalRecycle AB1201

Beyond Plastic LLC
Authored by: Fred D Pinzcuk, CTO
Nov. 7, 2023

Feasibility of collecting and processing plastics products within the current composting stream.

First and foremost, we would like to thank the members of CalRecycle for making the effort to better understand the challenges and issues facing our composting partners.

As we wrote to Deputy Director Clara Morgan on the 4th of November — we get it. We understand the frustration, challenges, and the years of accrued aggravation the industry has and is dealing with on the issue of handling “compostable” plastics.

There is no excuse that the plastic packaging industry can possibly provide that justifies its inaction at addressing these issues.

Bifurcation feasibility is, by definition, the capability to divide streams of incoming plastics. It’s already challenging for the recycling industry to differentiate from “recyclable” to non-recyclable or “whishcycled” materials. So, we can’t imagine the process ever working properly for composters.

This is in addition to dealing with “compostable “standards that we believe do not represent the industry needs. Moreover, there’s also been vast amounts of greenwashing facilitated by creative marketers who have mislead consumers, making it nearly impossible for them to make the right decision as to where or how products need to be disposed of —is it the grey, green or blue bin.

We hear you loud and clear.

SOLUTION:

We believe a multi-faced set of solutions can reduce if not eliminate the fundamental issues plaguing the industry. All the while supporting consumer insatiable need for consumer packaging and their attributes for food and consumer protection.

1) Plastic bifurcation:

There are no better experts within the field of plastic bifurcation than our state plastic recyclers. I would use our local provider RPlanetEarth (Los Angeles) as an example of a functional, effective and state-of-the art facility when it comes to the proper handling of plastic packaging waste.

RPlanetEarth's business model is relying on the circular economy based on PET plastics. They can recycle up to 62% of plastic bails into a very marketable product in great part thanks to the passing of SB54. RPET is a material of great value, and we can all forecast its use and application to increase annually as the mandate requires it.

We believe facilities such as RPlanetEarth are best suited to provide a clean stream of biopolymers that are compatible with composting facilities, eliminating the risk of introducing microplastics within the food chain.

Furthermore, we have successfully demonstrated the ability for the application of AI-driven InfraRed 3D Spectrometry to identify and catalog an ever-expanding range of materials with a 99.8% rate of bifurcation. (Copy of the test and validation are included.)

We would like to add that Italy has now become the EU poster child for the use, re-use, collection and composting of biomaterials. We are pursuing additional contacts to better understand their success and failures in implementing their circular economic development on the matter.

2) Application of biodegradable materials:

Not all biopolymers are created equally. And unfortunately, some material providers have gone through great lengths to either ignore their material fundamental properties or bluntly have misrepresented their attributes. The main culprit here is PLA or Polyethnic Acid biopolymer. PLA is a plastic derived from the fermentation process of lactic acid. However, it needs an external polymerization process, which requires a heavy metal catalyst to be turned into a useful plastic.

External polymerization is the main issue when it comes to PLA materials being marketed as “compostable.” And the standard used for determining this very generic term “compostable” requires very specific conditions that aren’t suited or available by most, if not all, composting facilities.

This external polymerization is also the root cause as to why PLA is simply not biodegradable. And if discarded within our environment, it is expected to generate microplastics as it weathers and degrades over time. This will ensure the material will build up within our environment and perpetuate the fundamental issues of petrol-base plastics. PLA may have a shorter lifespan of 50 to 75 years vs. 300, but it’s far from what the consumer would expect from a product labelled as “compostable” or miss-labelled at times as biodegradable.

At the November 2nd public hearing, we heard of the negative impact of relying on an ASTM 6400 standard and US certification body (BPI Biodegradable Products Institute) that is issuing these certifications all the while knowing full well PLA is not and never will be biodegradable.

The irony of using the word “biodegradable” by the certification body isn’t lost on everyone. Maybe something the state should look into?

We propose that only materials made of 100% PHA (Polyhydroxyalkanoates) be allowed to use the word or label “compostable.” These plastics are not only biobased

but can also be made from the capture of biogas such as CO2 and Methane. Two of the contributing gases are directly involved with global warming.

PHA is made by selecting bacteria found in Mother Nature with the unique ability to convert and transform biomass and/or biogas into a plastic that can be used as a direct replacement for traditional Carbon-Carbon base petrol polymers such as PP, PE, LDPE and PS. There is no secondary or external polymerization needed to make these plastics because the bacteria already did the heavy lifting for us. And because they are made from bacteria, they are in fact re-absorb by Mother Nature in a very similar, if not, identical fashion as cellulose (paper).

The current industry standard adopted to measure this natural biodegradation is ASTM 6691. The standard was designed to mimic ocean sensitive conditions of salinity and microorganism activities. The targeted rate of degradation of cellulose with that sensitive environment is 180 days, which equals 30% mass losses. PHA in is pure form, beats those numbers.

I would like to clearly state that it is not a perfect standard. One blaring issue is the testing is to be done at 80F, and we acknowledge that our oceans aren't measured at this temperature. So, we have included additional testing with temperatures as low as 40F. However, cellulose degradation also slows down at those temperatures. Regardless, if there is microbial activity, PHA plastic will in fact naturally biodegrade without generating microplastic.

This is not stated as a call to discard PHA materials in our environments. Far from it. It's the added safety net this unique material can bring along with its ability to be fully recycled, but also naturally compostable in all conditions.

REAL LIFE EXERCISE:

As a demonstrator of this technology, we are assembling, as we speak, in our labs a production cell for manufacturing drinking bottle caps out of PHA. Current materials used for this application are notably in the millions per day. And they are measured as

the second most collected plastic trash within our shores.[1] These traditional PP or LDPE made caps are notoriously difficult to recycle properly, easily discarded, and have little to no value to support a circular economy.

Our demo cell will include a recycling bifurcation system that will collect and grind PHA caps into flakes. Only to be mixed with the current wide range of petrol Polymers found in our packaging, including the valuable PET and HDPE. As part of this demo, we'll use commercially available AI IR Technology to separate the materials and have pure PHA flakes re-used on site to make another bottle cap.

When it comes to standards, compostability and biodegradability certifications are handled by OWS labs and issued by TUV strict EU standards of claims.

It's worth noting that TUV will not issue Marine Biodegradable Certs simply because they do not want to promote the abuse of the claim, add to the growing confusion, or instigate the accidental discarding of plastics within our environment.

The testing is only for ensuring the worst-case scenario is covered and explainable. Something no other plastic can claim or do. Including PLA.

We are also pursuing the work and effort of CMA (Composters Manufacturing Association) on establishing composting standards that meet the vast majority of the facilities within our states and across the nation in dealing with biodegradable biopolymers.

[1] **https://static1.squarespace.com/static/5522e85be4b0b65a7c78ac96/t/5acbd346562fa79982b268fc/1523307375028/5Gyres_BANlist2.pdf**

CONCLUSION:

We feel that our industry is now being found guilty by association, and we aren't entirely innocent in the matter. There are players within the field of PHAs that have unsuccessfully attempted to re-brand our materials as non-plastic.

However, when it comes down to the facts — PHA looks like plastic, behaves like a plastic, performs like many other plastics, and is in fact a plastic. And therefore, should be treated as plastic.

But it's a plastic that has the unique ability to protect our legacy for future generations. It can meet our everyday needs while not contributing to the ever-increasing plastic pollution if discarded carelessly or unconsciously into our environment.

Lastly, I would like to point out that California is measured to be the 4th largest economy in the world. It has been found to be the most restrictive to our business development. As an example, the label claim ban of the word "biodegradable" is blocking sales of products and distribution within our great state. And while we understand the root cause of the ban, we simply do not agree with being broadly targeted as others have greenwashed their way into the market for the past 20 years. We therefore would like the opportunity to present our materials backed by international science.

Currently China is leading the work on the application of these materials and doubling capacity annually. With EU taking second place, and the US trailing far behind in last place. The biggest US players within this field are **all** located outside of California.

We ask for the time and opportunity to complete our research on the successful Italian Biomaterial composting scheme. It is currently under review by the EU government in Brussels and looks to be adopted across all members. We'd like to present our findings to the CalRecycle members (Est. Q3 2024).

In addition, we would love the opportunity to further educate all members as we have with Senator Ben Allen and State Treasurer Fiona Ma on the subject of PHA bio-plastics. In support of using the existing plastic recycling systems to support a clean stream of materials and circular economy around biopolymers.

Last, we therefore ask for the AB1201 decision to be delayed long enough for the board to review the facts and for our industry a chance to provide the evidence needed to support our claims.

And we would like you to imagine plastic packaging that can not only be recycled but is in fact compostable in all conditions and methods. And leaves no trace if leaked in our environment. With this material, we could in fact reduce the amount of microplastics that is currently continuing to accrue within our oceans and land.

Our industry already lost the label of “biodegradable” due to the negligence of others. And now the loss of the “compostable” claims would set us back 10+ years on our research and development. And once again ensure other nations take the leads on its application.

Sincerely

Fred Pinczuk,
CTO
Beyond Plastic LLC
Commerce, CA.

Publications attached to comment from Beyond Plastic LLC

1. Michael T. Zumstein, Ramani Narayan, Hans-Peter E. Kohler, Kristopher McNeill, and Michael Sander, Dos and Do Nots When Assessing the Biodegradation of Plastics, *Environmental Science & Technology* **2019** *53* (17), 9967-9969, https://pubs.acs.org/toc/esthag/53/17

2. Law, K.L., Narayan, R. Reducing environmental plastic pollution by designing polymer materials for managed end-of-life. *Nat Rev Mater* **7**, 104–116 (2022). https://doi.org/10.1038/s41578-021-00382-0

3. M. Koller and A. Mukherjeec, Polyhydroxyalkanoates – Linking Properties, Applications, and End-of-life Options, Chemical and Biochemical Engineering Quarterly, 34 (3) 115–129 (2020), https://doi.org/10.15255/CABEQ.2020.1819

4. Mukherjee, Anindya, PHA: As green as it gets, Sustainable Plastics, February 24, 2021, https://www.sustainableplastics.com/news/pha-green-it-gets

5. M. Koller and A. Mukherjeec, Polyhydroxyalkanoate (PHA) Biopolyesters - Emerging and Major Products of Industrial Biotechnology, The EuroBiotech Journal, 6 (2) 49-60, April 2022, https://doi.org/10.2478/ebtj-2022-0007

6. M. Koller and A. Mukherjeec, Polyhydroxyalkanoate (PHA) Bio-polyesters – Circular Materials for Sustainable Development and Growth, Chemical and Biochemical Engineering Quarterly, 34 (4), February 2023, http://dx.doi.org/10.15255/CABEQ.2022.2124

7. M. Koller and A. Mukherjeec, A New Wave of Industrialization of PHA Biopolyesters, Bioengineering 2022, 9 (2), 74, February 2022, https://doi.org/10.3390/bioengineering9020074

8. M. Koller and A. Mukherjeec, Microbial PolyHydroxyAlkanoate (PHA) Biopolymers—Intrinsically Natural, Bioengineering 2023, 10(7), 855, July 2023, https://doi.org/10.3390/bioengineering10070855

STOPWASTE
at home • at work • at school

November 8, 2023

StopWaste is the Alameda County Waste Management Authority, the Alameda County Source Reduction and Recycling Board, and the Energy Council operating as one public agency.

Rachel Machi Wagoner
CalRecycle
1001 I Street, P.O. Box 4025
Sacramento, CA 95814

Dear Ms. Wagoner,

Thank you for the opportunity to comment on the AB 1201 Organic Waste Bifurcation Feasibility Determination ("Determination"). We support the findings of the Determination, which were that composters do not have the ability to process organics that are allowable feedstocks under the National Organic Program (NOP) separately from those that are not allowable. We have the following additional comments:

- Although the statute indicates that the Department will examine the feasibility of collection rather than processing, we support the decision to focus on processing for multiple reasons. Our conversations with composters echo the Department's findings that, even if separate collection is possible, there are significant barriers to separate processing, including additional costs, space, time, and labor, undermining the goals of bifurcation. As staff indicated during the workshop, even if barriers to separate processing could be overcome, composting both streams requires the addition of wood or green material, both allowed feedstocks under NOP. Adding these materials back into a stream composed of non-NOP feedstocks would be counterproductive to the goal of bifurcation.
- StopWaste's member agencies have also expressed concern about the financial and logistical barriers to bifurcating the collection streams. Separating collections would likely have the unintended consequences of increasing greenhouse gas emissions due to increased truck trips and increased contamination due to generator confusion.
- The implementation of the public process required by statute was insufficient. We urge CalRecycle to better communicate and engage with local jurisdictions, who are implementing state laws. As part of a more transparent and effective process, we recommend clearer coordination with the SB 54 rulemaking process.

Again, we support the goals of AB 1201 as well as the findings of the Determination. Please feel free to reach out to us for further dialog on this issue.

Sincerely,

Timothy Burroughs
Executive Director

1537 Webster Street
Oakland, CA 94612
p 510-891-6500
f 510-893-2308
www.stopwaste.org

November 8, 2023

Rachel Machi Wagoner
Director, Department of Resources Recycling and Recovery
1001 I Street
Sacramento, CA 95814

RE: AB 1201 Organic Waste Bifurcation Feasibility Comments

Dear Director Wagoner:

On behalf of the Rural County Representatives of California (RCRC), Solid Waste Association of North America (SWANA) California Chapters Legislative Task Force, the League of California Cities (Cal Cities), and the California Special Districts Association (CSDA) we are pleased to provide comments on the feasibility of bifurcating organic waste collection and processing pursuant to AB 1201 (Ting) of 2021.

RCRC is an association of forty rural California counties and the RCRC Board of Directors is comprised of elected supervisors from each of those member counties. SWANA is the world's largest association of solid waste professionals (with over 10,000 members) and the three California chapters represent nearly 1,100 of those members. The Legislative Task Force is responsible for representing the California Chapters, advocating for environmentally - and economically - sound management of municipal solid waste. Cal Cities is a statewide association representing over 476 cities and enhancing the quality of life for all Californians. CSDA represents all types of special districts, which provide millions of Californians with essential local services such as fire protection, resource conservation, water, recreation and parks, and more. Collectively, our members are the backbone of the state's solid waste management and recycling efforts and have been working hard to implement the state's new requirements to reduce landfill disposal of organic waste by 75 percent and increase edible food waste recovery by 20 percent.

Overview

We believe that it is infeasible to bifurcate the organic waste collection and processing streams and are concerned that the Discussion Paper for the Assembly Bill 1201 Public Workshop (Discussion Paper) only considers the feasibility of bifurcating organic waste processing without considering the related feasibility of bifurcating collection. The Discussion Paper appears to assume that AB 1201 provides CalRecycle regulatory authority to require bifurcation of the organic waste collection and processing system. The legislative history is quite clear that AB 1201 only intended to allow CalRecycle to order bifurcation ***of product labeling*** if it determines that bifurcation of the organic waste collection and processing system is feasible.

AB 1201 Was Intended to Lead to Bifurcation of Product Labeling

Due to concerns about the potential reach of late amendments to AB 1201, and the inability to further amend the bill because of legislative deadlines, the bill's author wrote and the Assembly adopted a Letter to the Assembly Journal clarifying the bill's intent, stating:

> *"This bill and this provision are designed to expand content and labeling requirements for compostable products, not adopt new regulations requiring a bifurcated organic waste collection processing system…It is not the intent of the Legislature that AB 1201, specifically the additions to Public Resources Code Section 42357(g)(1)(B) require CalRecycle to modify their newly-adopted organic waste recycling regulations and impose a completely new dual stream collection system for organic waste. The only intent of this provision was for CalRecycle's feasibility determination to trigger a requirement to adopt regulations to establish a bifurcated approach to product labeling."*

That intent was integrated into the resources trailer bill (AB 203 (Budget, Chapter 60, Statutes of 2022)), which amended PRC 42357(g)(1)(B) as follows:

> *"... By January 1, 2024, the department, through a public stakeholder process, shall determine whether, for purposes of this section, it would be feasible to separate the collection of products in order to recover organic waste that is suitable for use in organic agricultural applications from the collection of products not suitable for use in organic agricultural applications. If the department determines that such bifurcation is feasible and would enable efficient processing by solid waste processing facilities, the department shall adopt regulations on or before January 1, 2026, to establish a bifurcated approach* ***to product labeling*** [emphasis added]*, and products that are not collected for the purpose of recovering organic waste that is suitable for use in organic agricultural applications shall comply with the department's regulations and are not subject to the requirements of this subparagraph…"*

These changes went into immediate effect on June 30, 2022, but were inadvertently chaptered out when another bill was signed without first being modified to reflect the changes made a few months earlier by AB 203. The Discussion Paper's failure to mention these important aspects of AB 1201's legislative history has led to uncertainty as to where CalRecycle believes this feasibility determination will ultimately lead. Fortunately, CalRecycle should not need to reach that step because bifurcation of the organic waste collection and processing system is not feasible.

Bifurcation of Organic Waste Processing Is Not Feasible

The Discussion Paper notes that CalRecycle surveyed 34 mixed materials composting facilities as to the feasibility of bifurcating organic waste processing. In response, 58% responded that bifurcation of organic waste processing would not be feasible. Nearly 80% of respondents noted that adding capacity to process a separate stream would increase operational costs by more than 20%. We agree with those observations and the comments that bifurcation will increase labor costs and require significantly increasing processing capacity (and dedicated facility space) to handle two different organic streams to avoid contamination. Permitting composting facilities is already difficult enough without having to acquire more space to accommodate a small volume of non-National Organic Program (NOP) organics.

Local governments and the solid waste industry have invested substantial sums in building collection and processing capacity to implement the new SB 1383 organic waste recycling requirements. Some entities are building or expanding composting operations at considerable cost. Requiring those facilities to bifurcate organic waste processing to accommodate a small amount of non-NOP inputs would force them to go back to the drawing board to redesign the facilities and operations. These changes would further increase compliance costs beyond the $40 billion potential price tag associated with the SB 1383 organic waste recycling regulations. Furthermore, some facilities are likely space-constrained, which would make bifurcation impossible at a given facility without substantially decreasing capacity to produce NOP-compliant compost.

The feasibility analysis should consider that after bifurcation, non-NOP feedstock organics would still have to be blended with other inputs to produce compost. Those other inputs would likely have to be diverted from the production of more marketable NOP compliant compost production to produce an inferior product that is less marketable. All these costs and consequences would be the result of a "snowball effect" resulting from having to accept and process a very small amount of non-NOP feedstocks.

Similarly, bifurcation is not feasible because of time constraints and identification challenges. In addition to the fact that many "compostable" products do not break down in the timeframes that many California facilities are built around, it is also very difficult to differentiate "compostable" materials from conventional plastics. Most compost facilities screen out these materials for that very reason. So, bifurcation of the processing system would still founder without both requiring compostable materials to be clearly differentiated from conventional plastics AND compelling facilities to change their operating procedures to accommodate materials that take longer to break down.

Finally, the feasibility analysis should consider whether there will be adequate demand for non-NOP compliant compost. Many facilities have focused on production of organic compost because it commands a higher price and is in greater demand than non-organic compost. It is not clear that there would be sufficient demand for non-NOP compost in the marketplace. We note that CalRecycle has already tried to spur demand by ordering local governments to aggressively procure compost and other organic-derived products; however, compulsory public consumption cannot be the answer to enable a small universe of "compostable product" manufacturers to profit from introducing into the stream of commerce materials that are widely viewed as contaminants in the composting community and which are very difficult to differentiate from non-compostable plastics.

Even If CalRecycle Determines Bifurcation of <u>Processing</u> Is Feasible, Bifurcating <u>Collection</u> Remains Infeasible

While CalRecycle's survey and Discussion Paper focus on the feasibility of bifurcating the organic waste processing system, it does not appear to consider the feasibility of bifurcating organic waste collection. Even if CalRecycle determines it is feasible to bifurcate organic

waste processing, it will be infeasible to bifurcate organic waste collection into NOP and non-NOP organics streams.

Local governments and the solid waste industry have been ramping up efforts to increase organic waste collection to comply with CalRecycle's SB 1383 organic waste regulations. Bifurcation of the organic waste collection system would result in very significant costs for local governments, solid waste enterprises, and (ultimately) the residents who are served. The significant cost increases associated with adding and servicing an additional container would be exceedingly high relative to the very small amount of non-NOP inputs that are just as likely be discarded by consumers in either the trash or normal green waste can. Organic waste collection remains infeasible for some rural and low-population counties for a number of reasons ranging from roads to topography to population density. Those same challenges would be exacerbated and rendered even more infeasible if bifurcation of organic waste collection is required.

In short, bifurcation of the collection system would make local implementation of the SB 1383 regulations even more complex and challenging, thereby frustrating efforts to increase diversion and recycling of organic waste.

Conclusion

For these reasons, we strongly believe that bifurcation of organic waste processing and collection are not feasible. Given the legislative history of AB 1201, even if CalRecycle finds bifurcation of organic waste collection and processing is feasible, we believe CalRecycle's next steps are limited to requiring bifurcation of product labeling. Requiring bifurcation of the organic waste collection or processing systems would have severe and costly consequences for our members and their efforts to implement SB 1383.

We appreciate your consideration of these comments. If you should have any questions, please do not hesitate to contact John Kennedy (RCRC) at jkennedy@rcrcnet.org; Melissa Sparks-Kranz (Cal Cities) at msparkskranz@calcities.org; Christina Hanson (SWANA) at chanson@placer.ca.gov; or Anthony Tannehill (CSDA) at anthonyt@csda.net.

Sincerely,

JOHN KENNEDY
RCRC
Senior Policy Advocate

MELISSA SPARKS-KRANZ
Cal Cities
Legislative Representative

CHRISTINA HANSON
SWANA California LTF
Chair

ANTHONY J. TANNEHILL
CSDA
Legislative Representative

Government Affairs Department
1415 L Street, Suite 1200
Sacramento CA 95841

November 8, 2023

Via E-Mail

Ms. Rachel Machi Wagoner,
Director, CalRecycle
1010 I Street,
Sacramento, CA 95814

Organics@CalRecycle.ca.gov

RE: AB 1201 Public Workshop: Organic Waste Bifurcation Feasibility Determination

Dear Ms. Wagoner,

WM (Waste Management) is the nation's largest recycler and operates seven organic recovery compost facilities in California that collectively receive and process over 1.25 million tons of organic waste annually. WM plans to develop additional compost infrastructure in the near future to have capacity available to meet demand as more California jurisdictions fully implement organic material diversion in compliance with SB1383.

WM supports the three conclusions from the composter survey that were presented at CalRecycle's November 1, 2023, AB 1201 Organic Waste Bifurcation Feasibility Determination workshop and will elaborate on each one further in this letter.

1. While markets clearly exist for compost that incorporates uncoated paper and paperboard products, it is not clear that there is a market for compost that intentionally incorporates plastic or plastic-containing products.
2. Composting facilities have made significant investments in operational capacity and labor to implement SB1383. Adding another organic stream to process will significantly increase the investment needed.
3. Bifurcated collection of products would not enable the current solid waste processing infrastructure to efficiently process and recover products that are not allowable compost inputs under the National Organic Program (NOP).

Compost Markets:

WM's commercial compost customers demand quality material to help manage crop nutrients and support soil health. We meet this demand by ensuring our compost products meet or exceed stringent state and federal standards for use in agricultural applications. Importantly, many commercial customers prefer our OMRI listed, or other California Department of Food and

Agriculture registered organic input compost as this material helps the customer to maintain their "organic product" certification.

Compost must also be free from contamination. Considerable equipment and labor are utilized at our compost facilities to remove contaminants in the organic waste stream. Removing contaminants on the front end is a current necessity due to the organic stream containing plastics, plastic bags, and other contaminants. Removal of contamination is costly and further complicated by lookalike materials. Plastic bags and compostable plastic containers that are properly labeled as "compostable" are not easily recognizable and there is no reliable technology that can distinguish between plastic bags and compostable plastic bags in an industrial compost setting. Additionally, and importantly, screening of finished compost to remove gross contamination or oversized materials is necessary. The result of this screening is called "overs". Overs are ultimately landfilled since this material is contaminated with material not suitable for reprocessing as compost. A major reason for the inability to reprocess overs is plastic contamination.

As CalRecycle knows from the SB1383 quarterly measurements submitted in RDRS from compost operations, over 90% of the material sent to a landfill from a compost facility is organic. Eliminating compostable plastics and lookalike materials from the incoming waste stream would be a positive step toward reprocessing the overs into compost and thus reducing organic material disposed in landfills from compost operations.

Facility Investments:

As discussed in the workshop, the volume of compostable plastic is a small percentage of the overall organic waste stream. Building and permitting new facilities to manage a bifurcated compostable plastic waste stream to produce an unwanted compost product is not good public policy and will not provide distinguishable environmental benefit.

Due to the relatively small volume of compostable plastic products in the stream of commerce a commercially viable market is highly improbable and an attempt at building a bifurcated system would be a significant societal cost burden without a corresponding substantial environmental benefit.

Bifurcated collection and the NOP:

Current National Organic Program (NOP) regulations prohibit synthetic materials from being acceptable as compost feedstocks except for newspapers or other recycled paper without glossy or colored ink. If the NOP standards are relaxed and allow for other synthetic materials such as compostable and bioplastics, concerns would be heightened. These concerns would be added to those identified in CalRecycle's compost facility questionnaire that compostable plastics:

- are impossible to distinguish from non-compostable products, and
- do not degrade during industrial composting cycle timeframes, and
- contain contaminants that would negatively affect product quality and marketability.

Bifurcated collection system:

First and foremost, we must face the fact that adding another collection container or collection process for compostable plastic will only serve to confuse the public and lead to further contamination of the organic waste streams. Additionally, the costs of the system would be significant while California residents would not be able to perceive any discernible environmental benefit.

Creating a separate collection system for compostable plastics would most likely require additional vehicles. These vehicles would mean more vehicle emissions or more use of electrical energy. This seems counterproductive as California strives to achieve reductions in energy use and cleaner air for all citizens.

WM appreciates CalRecycle's public stakeholder process on this matter and we are pleased to provide the above comments.

Sincerely,

Alex Oseguera
Director of Government Affairs
California, Hawaii

betterearth

BETTER PACKAGING. BETTER EARTH.

November 7, 2023
Ms. Rachel Machi Wagoner, Director
California Department of Resources Recycling and Recovery
1001 I Street
Sacramento, CA 95814

RE: Public Meeting Notice: AB 1201 Discussion Paper

Dear Director Machi Wagoner,

As a stakeholder that would be directly impacted by the passage of AB 1201 (Ting), Better Earth – a compostable foodservice packaging provider servicing California customers - would like to provide public comment in response to the recent examination of the feasibility of bifurcated systems and the process surrounding the examination. We have concerns about how compostable foodservice packaging and bifurcated systems were presented within the survey and felt critical information relating to both was withheld from the survey process, thereby influencing results.

Certified compostables are a tool for circularity in food service
Better Earth's mission is to make sustainability accessible and regenerative circularity achievable within the foodservice industry. It is evident from recent hallmark legislation that California legislators share this vision. Certified compostables are a powerful tool to address the mounting environmental crises we face by reducing our collective dependency on petroleum for single-use items, thereby reducing microplastic pollution, enable us to take action on climate change, and help divert more food waste and packaging from landfills and into compost piles.

To this end, we take question with respondents that claim "certified compostable plastics do not biodegrade in the timeframe required" and request further evidence to substantiate this theory. Certified compostable packaging, including certified compostable plastics, is PFAS-free and and is specifically engineered and evaluated to break down and decompose in a composting setting within a prescribed duration, without leaving behind toxic residues or microplastics in the soil. Our certified compostable plastics have been tested in a variety of composting environments – whether that be in less than 40 days in an in-vessel system, as certified by the Compost Manufacturing Alliance, or within 90-180 days in a windrow system.

Composting certified compostables is feasible in California
While it is evident from the survey results that composters feel bifurcated systems require special logistics and financing, the survey failed to mention that SB 54 designated funds specifically to create or bolster end markets for composters and support the processing of certified compostable products. Nonetheless, without this information designated within the survey, over a third of respondents (25 plus 12 percent) stated that processing separate streams would be feasible, representing a substantial sample size of composters within the state and echoes similar bifurcated systems operating across the country. If the Biodegradable Product Institute's petition to the NOP is successful, it will further reduce instances where bifurcation is necessary.

What is the strategy to address contamination?
As outlined above, compostables are not the contaminants of concern. As an industry, we are continuing to make strides to educate consumers about our packaging's designated end-of-life through standardized labeling requirements designed collaboratively by the Biodegradable Products Institute and the US Composting Council.

What will continue to cause issues? If single-use plastics are allowed to flow through the system, such as through non-compostable traditional plastic collection bags, microplastics will persist in California's composting piles. What is CalRecycle's plan to improve education with all stakeholders and reduce the risk of traditional single-use plastics contaminating the system?

Sincerely,

Savannah Seydel
Vice President of Sustainability, Better Earth

715 Park North Boulevard, #100 Clarkston, GA 30021 (844) 243-6333
7447 S. Central Avenue, Suite A Chicago, IL 60638 (844) 243-6333

Scan for our 2023 Catalog

November 8, 2023

Rachel Machi Wagoner, Director
California Department of Resources Recycling and Recovery
1001 I Street
Sacramento, CA 95814
Sent via email to: Organics@CalRecycle.ca.gov

RE: AB 1201 DISCUSSION PAPER: ORGANIC WASTE BIFURCATION FEASIBILITY

Dear Director Machi Wagoner:

The Western Placer Waste Management Authority (WPWMA) appreciates the opportunity to provide comments on AB 1201 (Ting) Solid Waste: Products: Labeling: Compostability and Biodegradability.

The WPWMA is a joint powers authority established in 1978 by the County of Placer and the cities of Lincoln, Rocklin and Roseville (Member Agencies) that provides recycling and waste disposal services to those communities as well as the cities of Auburn and Colfax and Town of Loomis (collectively referred to as the Participating Agencies).

The WPWMA's facilities include the Western Regional Sanitary Landfill (WRSL) (the only active landfill in Placer County), a mixed waste materials recovery facility (MRF) organics composting facility, recycling drop-off and buy-back center and permanent household hazardous waste collection facility. The WPWMA's facilities provide for environmentally protective and sanitary disposal of solid wastes and ensure that municipalities, businesses and individuals utilizing the facility continue to comply with state and federal laws related to the diversion of materials from landfilling and the safe and proper handling of household hazardous wastes. The WPWMA operates a mixed waste MRF which allows for recyclables, including select compostable materials, to be co-collected with other wastes. In its nearly 30 years of operation, the WPWMA's mixed waste MRF approach has cost effectively met and exceeded material diversion requirements.

It is the WPWMA's concern that AB 1201's intended goal of expanding content and labeling requirements for compostable products will quickly evolve into bifurcating waste for collection and processing.

The WPWMA recently began construction on a $120 million project to upgrade its MRF and composting facilities to comply with SB 1383 and is designed to recover readily compostable organics including yard waste and food waste. An additional requirement for processing facilities to recover and process "compostable" plastics could require further investment, as most "compostable" products do not break down in the

timeframes in which the WPWMA's and most other commercial-scale composting facilities operate.

The WPWMA agrees with the July 7, 2021 Senate Committee on Environmental Quality analysis of the bill stating that "*composting facilities are variable across the state, and many facilities do not have the capacity to break down plastic products. Composting is generally designed to manage organic waste, like yard clippings and food waste, and currently is not the ideal management option for plastic waste, even if it is technically compostable*."

Composting facilities like the WPWMA's regularly prohibit "compostable" plastics and other non-compostable materials to improve end product quality and marketability and maintain organic certifications, which are key to marketing compost. The addition of food waste into the WPWMA's composting system in response to SB 1383 has introduced additional types and quantities of contamination, and the WPWMA has undertaken significant cost and effort to ensure that its compost products maintain organic certification. Maintaining organic certification and viable markets will prove even more difficult for material that includes "compostable" plastics.

The WPWMA strongly believes that, considering the legislative history of AB 1201, should CalRecycle determine bifurcation of organic waste collection and processing to be feasible, **CalRecycle's regulatory authority must remain limited to** requiring bifurcation of product **labeling** per the bill's intent. In fact, Assembly Member Ting drafted a letter to the Assembly Journal clarifying the bill's intent to "*expand content and labeling requirements for compostable products, **not** adopt new regulations requiring a bifurcated organic waste collection and processing and system…The only intent of this provision was for CalRecycle's feasibility determination to trigger a requirement to adopt regulations to establish a bifurcated approach to product **labeling***."

Requiring bifurcation of organic waste collection and/or processing systems would have severe and costly consequences for the WPWMA and other jurisdictions and processing facilities, compounding the existing burden of SB 1383 implementation.

Please contact me at (916) 543-3984 or eoddo@placer.ca.gov should you wish to discuss these comments.

Sincerely,

Eric Oddo, PE
Program Manager

Vicki W. O'Rourke
Vickiorourke@wincup.com

November 8, 2023

Via email Organics@CalRecycle.ca.gov
Rachel Machi Wagoner, Director
California Department of Resources Recycling and Recovery
1001 I Street
Sacramento, CA 95814

Re: AB 1201 Discussion Paper

Dear Director Machi Wagoner:

WinCup, Inc. is a proud innovator and manufacturer of phade® certified compostable products. Our products are certified by BPI, TUV (home and industrial compostable) and CMA (in vessel and windrow).

We are writing to express our concerns regarding the Department's analysis of the feasibility of bifurcation of the compost stream for purposes of, and in accordance with, AB 1201. In particular, we are concerned about the June 2023 survey of mixed material composting facilities in California, the nature of the questions included in the survey, and the Department's interpretation of the survey results as it relates to the explicit mandate of AB 1201.

Bifurcation is Feasible

We were pleased to learn that 38% of respondents in the survey indicated that bifurcated streams are feasible. It is understandable that some of the respondents voiced their concern that bifurcation will be expensive or will increase their operating costs. Fortunately, SB 54 was intended to and will provide funding to build out better infrastructure for composting in the State, particularly, if implemented in an equitable manner, for those composters who accept all certified compostable products in order to help the State achieve its diversion and circularity goals. Naturally, contamination of the compost stream will remain a concern for all composters, which will be the case in any system, whether single stream or bifurcated. The root cause of contamination is lack of consumer awareness, which is best addressed with better education and consumer friendly programs (both of which can and should be addressed using funding generated by SB 54).

Certified Compostable Products Biodegrade Quickly without creating Microplastics

It is concerning to us that composters were questioned about microplastics and PFAS. We have competent and reliable scientific evidence using well accepted ASTM standards, as well as actual field testing, to definitively establish that our certified products biodegrade in an acceptably short time frame without creating microplastics. While it is true that there is variability in the practices of each individual composter, one of the key functions of SB 54 (and its related revenue generation) should be to build out better compost infrastructure and establish more standard practices across the state.

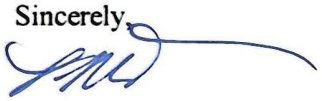
Certified Compostable Products Must Comply with Strict PFAS Limits

It is important to highlight that all of the third party certification bodies do not allow intentionally added PFAS in certified compostable products, and they only allow very de minimis residual PFAS. In most cases, a certified biopolymer product undergoes far more rigorous testing than most of its paper and fiber based counterparts (when, in fact, intentionally added PFAS has historically been used far more prevalently in paper/fiber based applications).

A Forward Looking Analysis

Respectfully, we ask that CalRecycle engage in this bifurcation determination with a forward looking view that takes into account more than just a static analysis of the compost infrastructure and the desires of composters as they exist today. This is a critical opportunity for CalRecycle to move both compostable products manufacturers and composters towards a mutually beneficial goal of implementing and building a better composting system that will more effectively serve the State's organic waste diversion and circularity goals.

Sincerely,



Vicki W. O'Rourke
Corporate Counsel, WinCup, Inc.

cc: Michael Winters, President and CRO
Michael Adams, Vice President, Innovation, Sustainability, and Marketing

BASF
We create chemistry

November 8, 2023

Department of Resources Recycling and Recovery (CalRecycle)
1001 I Street
Sacramento, CA 95814

Sent via email to *Organics@CalRecycle.ca.gov*

RE: Comments on AB1201 Discussion Paper and Public Workshop

To Whom it May Concern:

We thank you for the opportunity to comment on the feasibility of collecting certified compostable products that are not yet considered acceptable compost feedstocks under the National Organic Program, specifically with respect to the recently published discussion document and resulting public workshop.

At BASF, we create chemistry for a sustainable future. BASF is a diverse global company that manufactures products and conducts research and development in industries ranging from automotive, electronics, paints and coatings, pharmaceuticals, personal care hygiene, and agricultural products, among a wide range of others. We employ 16,000 employees in North America, including approximately 300 employees in California located at 9 research and development and manufacturing sites across the state. BASF prides itself on developing innovative solutions to promote a circular and sustainable economy.

The biopolymers business at BASF makes certified compostable and certified soil biodegradable resins, which are raw materials for products sold across the world that help facilitate large-scale organic waste diversion. Collection and composting of organic waste at scale is essential for California to meet its GHG reduction goals and to offset impacts of climate change via the use of compost, which has been shown to increase water-holding capacity of soils, prevent erosion, and directly sequester carbon.

BASF appreciates the opportunity to provide feedback on key elements related to bifurcation based on the survey conducted by CalRecycle and the resulting discussion at the public workshop.

> **We were pleased to see the survey showed that bifurcation is possible.**
> It is well-understood that bifurcation is possible and necessary for some composters according to their business models. Composters should be free to run their processes, decide on their feedstocks, and make any products they wish to manufacture.

- Nearly 40% of the composters surveyed stated that it would be feasible to accept bifurcated streams. It was noted, appropriately, that there is some cost associated with this approach, depending on the individual capabilities of the composter. At the public workshop, it was revealed that CalRecycle did not inform the survey participants that the additional cost associated with accepting certified compostable products will be covered under SB54, which means composters are clear on the technical ability to make a quality product even in the absence of funding.

- Any composters that wish to make compost which is not certified organic should be allowed to do so, whether it is the sole product they manufacture, or it is one of several products they wish to manufacture via bifurcation. In the absence of a decision from the NOP, if CalRecycle decides bifurcation is not possible, then it would not only prevent composters who wish to run two separate processes from doing so, it would prevent composters who wish to make non-certified compost and accept certified compostable products from doing so.

- We wish to note that there are no composters that are forced to accept certified compostable products nor run a bifurcated process. Likewise, no composters should be prevented from accepting certified compostable products nor running a bifurcated process if they wish to do so. While it was stated at the public webinar that many composters do not currently do so today, that is a function of the current limitations of the organics recycling system, in particular, capacity constraints and lack of funding, which is compounded by the onset of SB1383 implementation. Limitations associated with capacity and funding must change to properly divert organics in California, especially as we consider post-consumer food scraps. With the passage of SB54, there is now a clear path forward on how to remedy both of these concerns for composters accepting certified compostable products. The magnitude of the challenge of organics management in California is such that all tools should be available, in particular, for composters.

Survey scope extended beyond "feasibility"

- BASF must highlight that questions in the survey with regard to microplastics and PFAS are outside the scope of the survey content. Certified compostable products are proven to be fully biodegradable and are prevented from including intentionally added PFAS by virtue of not only the certification, but also by California legislative language which has been passed and can be found in statute. Furthermore, California has had globally recognized success in enforcing penalties against companies making false compostability claims in the market. It should be noted there is a range of systemic solutions that are well-known and can be employed to reduce contamination, which includes education and outreach for all stakeholders, which has so far not taken place, but will also be funded under SB54.

- Also outside the scope of the survey, was the suggestion that certified compostable products do not break down in well-managed composting facilities. While it is understood that composters in California are arbitrarily cutting cycle times due to capacity constraints, so far, no data has been presented to suggest that certified compostable products are not breaking down. Certainly, it is possible to run some composting processes in such a manner that certified compostable

products are not a fit. However, on the contrary, when studies are conducted, even in modern high-throughput processes, it is shown that certified compostable products readily disintegrate.[1]

- Additionally, there was much discussion regarding the value of certified compostable products, which is also out of scope for a survey related to feasibility of bifurcation, but the value of these products in the collection of post-consumer food waste has also been made clear. Certified compostable products cause no harm to the composting process, even when present at unrealistically high concentrations; additionally, they are a source of carbon and can act as a bulking agent in the pile.[2] Furthermore, the purpose of certified compostable products is to act as a tool to divert organics; it has been shown that use of certified compostable products can increase participation in organic waste diversion programs, to support increased diversion of post-consumer food waste.[3]

Organics diversion and subsequent use of compost is necessary for California to realize its climate goals and to ensure the health of its soil to support its more than $50 billion agricultural market. To achieve this, a range of tools, programs, and products, including certified compostable products, are necessary to support organics diversion at scale, especially since no composters are mandated to accept any specific feedstock, including certified compostable products. Studies such as those conducted by the Marin Carbon Project indicate the importance of not only reducing GHG by diverting valuable organic waste but also the carbon sequestration benefit of applying compost to soil.[4]

Because of the urgency and importance for the development of robust organics diversion programs across California, we ask that CalRecycle take advantage of this opportunity to not look backward at existing limitations for composting and certified compostables. We ask that, instead, we look forward together, helping to create programs that will ensure a robust, sustainable future for Californians. This means setting up programs based on long-proven facts and well-defined science; it also requires learning from the errors of the past and building upon them for a truly sustainable future.

We thank you for the opportunity to comment, and we would welcome an opportunity to discuss any of these items related to bifurcation feasibility.

Sincerely,

s/Nicole Daigle McCracken
Senior Manager, State Government Affairs
BASF Corporation

---

[1] https://storage.googleapis.com/bpiworld-org/documents/Portland-Overs-Sorting-Study-Final-Oct-12.pdf
https://www.biocycle.net/disintegration-rate-compostable-products-industrial-facility/
https://www.biocycle.net/quantifying-microplastics-vs-bioplastics-in-composted-msw-organics/

[2] https://www.biocycle.net/value-compostable-packaging-feedstock/

[3] https://www.biocycle.net/compostable-products-postconsumer-food-scraps/
https://download.basf.com/p1/8a8082587fd4b608017fd6348afb20b2/en/Analysis_of_the_Use_of_Compostable_ecovio%3Csup%3E%C2%AE%3Csup%3E_Organic_Waste_Bags_Articles_in_Technical_Journals_English.pdf?view

[4] https://marincarbonproject.org/science/

From: Caprio, Michael
To: Organics
Subject: FW: Draft AB1201 Workshop - Organic Waste Bifurcation Feasibility Determination
Date: Wednesday, November 8, 2023 7:55:33 AM

[[EXTERNAL]]

CalRecycle Team,

Thank you for conducting the above referenced Workshop on November 1st. The Discussion Paper and information gathered from surveys of organics processing facilities was helpful and supportive of the topic being reviewed. Republic Services wanted to relay our position on the ultimate decision point which is whether or not regulations should be proposed relative to separate collection of plastic containing materials. In summary, we do not believe it is appropriate to pursue separate regulations to address this issue for many of the same reasons noted during the Workshop. These include:

- The large majority of plastic containing materials do not biodegrade at all or within the residence times allowed by the majority of organics processing facilities within the state. As such, these products become contaminants and impact not only the ability to market the final compost product, but could also affect critically important certifications held by many of the facilities (ie. OMRI, CDFA, etc.). Most organics processing facilities have instituted procedures for pre-sorting of these contaminants or have incorporated additional processing equipment to address their removal (ie. wind sifters for plastic removal). The material has historically been included within residential and commercial organics streams due to claims of it being biodegradable but in reality, these materials are not. The recommendation in the Discussion Paper of a cessation of sale of these materials into CA after January 1, 2026 unless they meet established criteria under the National Organics Program and adhere to the statutory requirements of PRC 42357 is supported by Republic.

- Processing capacity for organics in the state of CA is limited. While the permitting of additional capacity is ongoing, separate processing of these materials would consume capacity otherwise needed for management of materials that are truly biodegradable (ie. green and food waste). Removal of green and food waste from landfills where it can potentially cause methane emissions was the key driver behind the development of the SB1383 statute and regulations. As these organic material streams continue to be removed from the disposal pathway, current and future organics processing capacity should be reserved for management of material that can potentially cause methane emissions and not for ancillary products and materials that are much less of a concern in this regard.

- Should plastic containing materials be collected separately there does not appear to be a market for their re-purposing. This reality thereby leads to the question of why take on the challenge and associated impacts (traffic & vehicle impacts, energy consumption, public

education hurdles, etc.) associated with a bifurcated collection system if there is a high probability of the materials not being recycled due to the lack of an end market.

The CalRecycle team has approached and addressed the statutory requirements related to this issue in a thorough and thoughtful manner. Based on the items noted herein, Republic Services does not believe that bifurcated collection of plastic containing materials is a viable use of resources or current and future organics processing capacity.

Please contact me with any additional questions related to this matter.

Regards,

Mike

Michael Caprio
Director Government Affairs - CA

980 9th Street - 16th Floor
Sacramento, CA 95814
e mcaprio@republicservices.com
o 209-482-7966
w RepublicServices.com

Sustainability in Action

BIODEGRADABLE PRODUCTS INSTITUTE

November 7, 2023

Ms. Rachel Machi Wagoner, Director
California Department of Resources Recycling and Recovery
1001 I Street
Sacramento, CA 95814

Re: Public Meeting Notice: AB 1201 Discussion Paper

Dear Director Machi Wagoner:

As a stakeholder directly engaged at of introduction of AB 1201 (Ting) and its ultimate passage (Chapter 504, of the Statutes of 2021), the Biodegradable Products Institute (BPI) has been looking forward to this examination of the feasibility of bifurcated systems. However, having reviewed the discussion paper, we have concerns about the scope (which appears to extend far beyond the feasibility of bifurcation) and some of the leading suggestions made in the document.

They include:

An incorrect version of our NOP Petition

The phrase "petition submitted" hyperlinks to a draft version of BPI's petition that was not made public. We ask that you please link to a correct version of the petition.

Bifurcation is clearly possible

Over a third of respondents (25 plus 12 percent) stated that processing separate streams would be feasible, which clearly suggests that bifurcated systems can be a workable solution in California. This should not surprise anyone as bifurcated programs are commonly operated in North America. While they might demand special logistics and financing, as recognized by the survey, funds generated by SB 54 were designed specifically to create or bolster end markets, and to support systems to manage certified compostable products including bifurcated ones if necessary.

Leading questions; "concerns related to accepting and processing plastics and plastic-containing products into finished compost."

We question why composters would be asked about their concerns regarding microplastics and PFAS contamination when **certified compostable plastics are designed and tested to disintegrate and biodegrade (leaving no microplastics) and tested to confirm no intentionally PFAS chemicals are added or used.** It should be noted that BPI stopped certifying products with intentionally added PFAS well in advance of any state enacted restrictions. The question appears to highlight a bias against bio-resins while at the same time failing to recognize the accepted science

888 8th Ave, New York, NY, 10019
Ph: 888-274-5646 Email: info@bpiworld.org
Website: www.BPIworld.org Database: http://products.bpiworld.org

related to ASTM certifying standards. It is important to note that ASTM standards and specifications are generally based on consensus by ASTM members.

Unsubstantiated claims regarding the biodegradability of certified items

Listed as a concern by a quarter of respondents, claims that "certified compostable plastics do not biodegrade in the timeframe required" are presented here with zero supporting evidence. How were certified compostable items identified separately from non-compostable lookalikes, or items that were not third party certified? Were tests conducted on the "overs" (materials identified as failing to disintegrate) to determine the actual characteristics of materials, and identify the producers of those contaminants? If there is data to support those claims, the BPI would appreciate that information being shared as part of the record in the regulatory development, otherwise these "findings" only serve as unsubstantiated misperceptions.

Lack of identification of physical contaminants

Given the gravity of concern (54% concern, 33% top concern), how will CalRecycle be taking steps to improve education and communication with all stakeholders to reduce contamination by conventional plastics in post-consumer feedstocks? Will non-compostable traditional plastic collection bags, currently allowed by SB 1383 despite their being an obvious source of contamination and the most likely source of microplastic contamination in compost facility end products, be eliminated? Contamination remains a systemic problem that municipalities across the U.S. have started to address by designing consumer-friendly programs that simplify what can be accepted in composting, such as Minneapolis's program that allows only certified compostable items and consistently has contamination rates at or below 1%.

Moving away from compostable products, especially for items that are proven to increase the diversion of organic waste (produce stickers, produce bags, collection bags, coffee pods, tea bags, and food service ware) will continue to leave conventional plastic contaminants that—coupled with de-packaging machinery—are likely to create more microplastic pollution in finished compost. The BPI believe all parties that are invested in organics diversion should be careful to not implement rules that end up with regrettable substitutions or unintended outcomes that are environmentally unfortunate.

Designing for the future

Across the country, food waste composting programs have managed to harness the power of certified compostable products to maximize organic waste diversion while minimizing contamination from non-compostables. Nothing prevents California from replicating the success of these programs, and while bifurcation isn't needed in all cases, it is already a beneficial tool in some situations. And if the outcome of BPI's petition to the NOP is successful, it will further reduce the instances where this bifurcation is needed, which was the goal of AB 1201 pushing for federal action.

In our view, California is as well positioned as any state, given its statewide mandate for organics collection, existing product laws, and funding opportunities via SB 54 and elsewhere to overcome many of the challenges faced by all of those interested in seeing organics diversion succeed. However, clearer support for the use of certified compostable products is needed, with reasonable criteria not just for the producers of these materials but the receivers (composters) as well, so that municipalities and the consumers they serve aren't left holding the bag (literally) with mixed messaging about what to do with products and packaging associated with food scraps.

Sincerely,

Rhodes Yepsen,
Executive Director, BPI

Cc: Zoe Heller, Deputy Director, Division of Circular Economy, CalRecycle
Alexander Truelove, Legislation & Advocacy Manager, Biodegradable Products Institute (BPI)
Bruce A. Magnani, Vice President, Houston Magnani and Associates
Organics@CalRecycle.ca.gov

BIODEGRADABLE PRODUCTS INSTITUTE

November 7, 2023

Ms. Rachel Machi Wagoner, Director
California Department of Resources Recycling and Recovery
1001 I Street
Sacramento, CA 95814

Re: Public Meeting Notice: AB 1201 Discussion Paper

Dear Director Machi Wagoner:

As a stakeholder directly engaged at of introduction of AB 1201 (Ting) and its ultimate passage (Chapter 504, of the Statutes of 2021), the Biodegradable Products Institute (BPI) has been looking forward to this examination of the feasibility of bifurcated systems. However, having reviewed the discussion paper, we have concerns about the scope (which appears to extend far beyond the feasibility of bifurcation) and some of the leading suggestions made in the document.

They include:

An incorrect version of our NOP Petition

The phrase "petition submitted" hyperlinks to a draft version of BPI's petition that was not made public. We ask that you please link to a correct version of the petition.

Bifurcation is clearly possible

Over a third of respondents (25 plus 12 percent) stated that processing separate streams would be feasible, which clearly suggests that bifurcated systems can be a workable solution in California. This should not surprise anyone as bifurcated programs are commonly operated in North America. While they might demand special logistics and financing, as recognized by the survey, funds generated by SB 54 were designed specifically to create or bolster end markets, and to support systems to manage certified compostable products including bifurcated ones if necessary.

Leading questions; "concerns related to accepting and processing plastics and plastic-containing products into finished compost."

We question why composters would be asked about their concerns regarding microplastics and PFAS contamination when **certified compostable plastics are designed and tested to disintegrate and biodegrade (leaving no microplastics) and tested to confirm no intentionally PFAS chemicals are added or used.** It should be noted that BPI stopped certifying products with intentionally added PFAS well in advance of any state enacted restrictions. The question appears to highlight a bias against bio-resins while at the same time failing to recognize the accepted science

888 8th Ave, New York, NY, 10019
Ph: 888-274-5646 Email: info@bpiworld.org
Website: www.BPIworld.org Database: http://products.bpiworld.org

related to ASTM certifying standards. It is important to note that ASTM standards and specifications are generally based on consensus by ASTM members.

Unsubstantiated claims regarding the biodegradability of certified items

Listed as a concern by a quarter of respondents, claims that "certified compostable plastics do not biodegrade in the timeframe required" are presented here with zero supporting evidence. How were certified compostable items identified separately from non-compostable lookalikes, or items that were not third party certified? Were tests conducted on the "overs" (materials identified as failing to disintegrate) to determine the actual characteristics of materials, and identify the producers of those contaminants? If there is data to support those claims, the BPI would appreciate that information being shared as part of the record in the regulatory development, otherwise these "findings" only serve as unsubstantiated misperceptions.

Lack of identification of physical contaminants

Given the gravity of concern (54% concern, 33% top concern), how will CalRecycle be taking steps to improve education and communication with all stakeholders to reduce contamination by conventional plastics in post-consumer feedstocks? Will non-compostable traditional plastic collection bags, currently allowed by SB 1383 despite their being an obvious source of contamination and the most likely source of microplastic contamination in compost facility end products, be eliminated? Contamination remains a systemic problem that municipalities across the U.S. have started to address by designing consumer-friendly programs that simplify what can be accepted in composting, such as Minneapolis's program that allows only certified compostable items and consistently has contamination rates at or below 1%.

Moving away from compostable products, especially for items that are proven to increase the diversion of organic waste (produce stickers, produce bags, collection bags, coffee pods, tea bags, and food service ware) will continue to leave conventional plastic contaminants that—coupled with de-packaging machinery—are likely to create more microplastic pollution in finished compost. The BPI believe all parties that are invested in organics diversion should be careful to not implement rules that end up with regrettable substitutions or unintended outcomes that are environmentally unfortunate.

Designing for the future

Across the country, food waste composting programs have managed to harness the power of certified compostable products to maximize organic waste diversion while minimizing contamination from non-compostables. Nothing prevents California from replicating the success of these programs, and while bifurcation isn't needed in all cases, it is already a beneficial tool in some situations. And if the outcome of BPI's petition to the NOP is successful, it will further reduce the instances where this bifurcation is needed, which was the goal of AB 1201 pushing for federal action.

In our view, California is as well positioned as any state, given its statewide mandate for organics collection, existing product laws, and funding opportunities via SB 54 and elsewhere to overcome many of the challenges faced by all of those interested in seeing organics diversion succeed. However, clearer support for the use of certified compostable products is needed, with reasonable criteria not just for the producers of these materials but the receivers (composters) as well, so that municipalities and the consumers they serve aren't left holding the bag (literally) with mixed messaging about what to do with products and packaging associated with food scraps.

Sincerely,

Rhodes Yepsen,
Executive Director, BPI

Cc: Zoe Heller, Deputy Director, Division of Circular Economy, CalRecycle
Alexander Truelove, Legislation & Advocacy Manager, Biodegradable Products Institute (BPI)
Bruce A. Magnani, Vice President, Houston Magnani and Associates
Organics@CalRecycle.ca.gov


COMPOST MANUFACTURING ALLIANCE℠
COMPOSTER APPROVED

Field Testing Disintegration of Compostables in Common Processing Technologies

Contact: Susan Thoman,
Managing Director
susan@composterapproved.com

Janet Thoman, Compliance
Director
Janet@composterapproved.com

COMPOSTER APPROVED

CMA is a third-party certifier of compostable packaging and food service ware

CRRA August 2023

Since 2017

- ✓ 123 tests
- ✓ Four processes
- ✓ 3031 samples tested

Process	Test Code	# of Tests	# of Samples
Covered In-Vessel	CMA-I	35	1135
Windrow	CMA-W	37	1303
Aerated Static Pile	CMA-A	15	593
Tunnel	CMA-TUN	1	10
	TOTAL	**123**	**3031**

CRRA August 2023

CMA-I Disintegration Performance

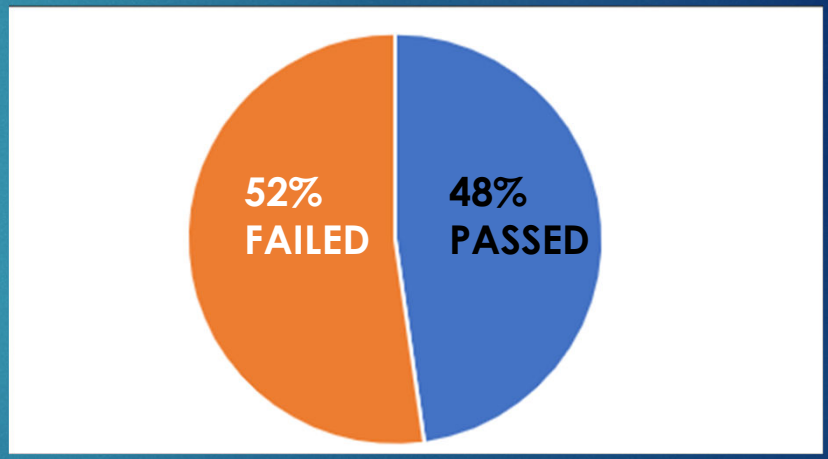
Gore Cover ® Membrane Laminate Technology

Number of tests: 35

Number of samples: 1135

Samples that PASS: 542 (48%)

Samples that FAIL: 593 (52%)



CRRA August 2023

CMA-A (ASP) Disintegration Performance

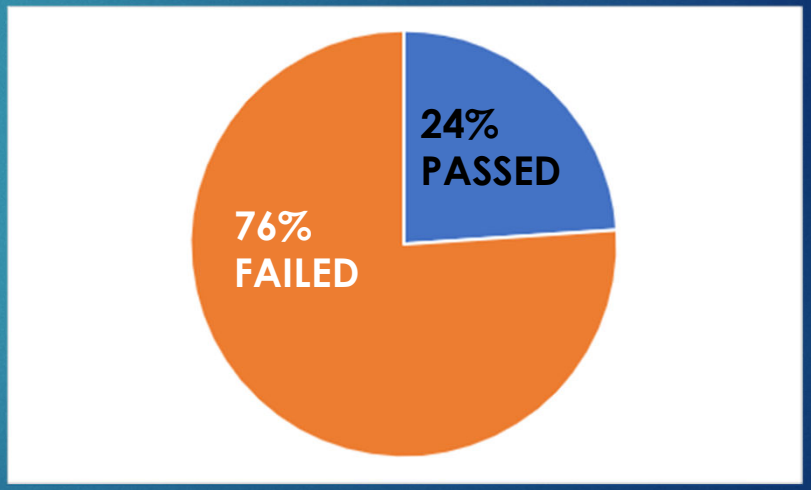
ECS Aerated Static Pile System

Number of tests: 15

Number of samples: 593

Samples that PASS: 142 (24%)

Samples that FAIL: 451 (76 %)



CRRA August 2023

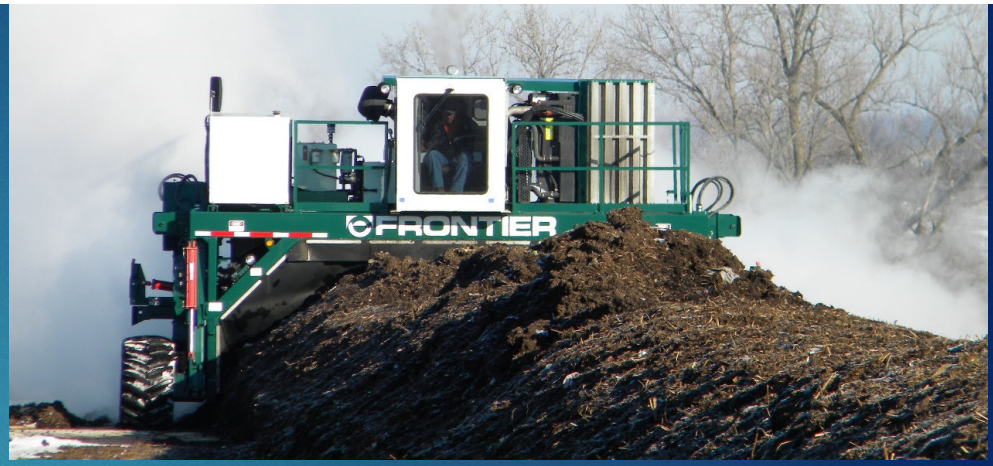
CMA-W Disintegration Performance

Number of tests: 36

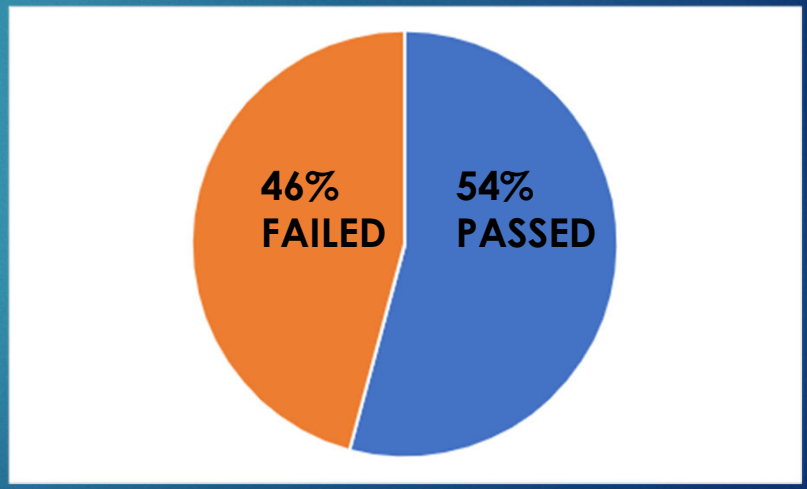
Number of samples: 1297

Samples that PASS: 705 (54%)

Samples that FAIL: 592 (46%)



Windrow System with Frontier Turner



CRRA August 2023

Disintegration Performance, All Tests

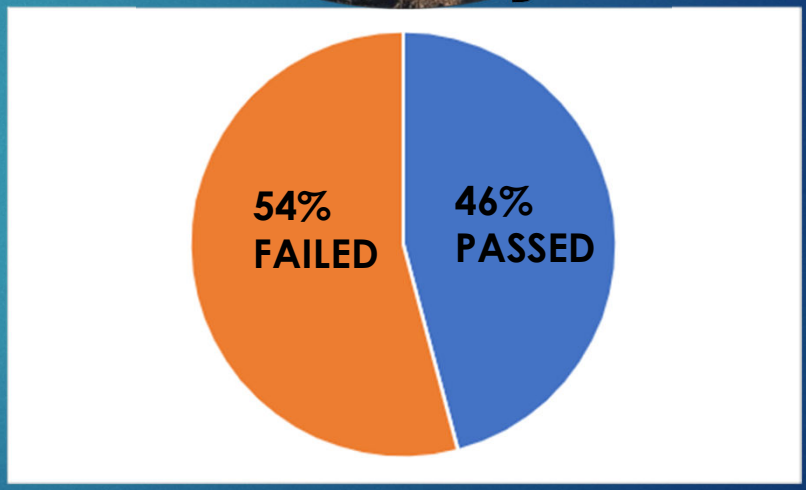
Number of tests: 123

Number of samples: 3031

Number of processes: 4

Samples that PASS: 1390 (46%)

Samples that FAIL: 1641 (54%)



MythBusters: Waste Expo 2022

What we have learned

- Some assumptions are valid
- Many are not
- Composting science is dynamic!

COMPOST MANUFACTURING ALLIANCE℠
COMPOSTER APPROVED

Myth 1: If it passes ASTM tests, it works in the piles

- Genesis of CMA – Cedar Grove experience
- Field vs laboratory parameters

LAB AND FIELD CONDITIONS DIFFER

COMPOSTER APPROVED

LAB DISINTEGRATION CONDITIONS

- "Ideal" temperature, moisture
- 180 days biodegradation/ 84 days disintegration
- Checks germination in resulting compost
- 90% pass criteria

REAL WORLD FIELD CONDITIONS

- Highly variable temperature (range) and moisture (30-60%)
- Varying duration, as short as 4 weeks
- Varying 'pass' criteria

Myth 1: If it passes ASTM tests, it works in the piles

DEBUNKED

Myth 2: If an item passes in one type of composting system, it will pass in any of them

Paper Study

Standard Field Testing

Control Performance

*Field Disintegration Results for Mixed Subst
Project 2020-2021

25 samples with passing ASTM testing
Pass:
- **80% disintegration for fiber-based products**
- **90% disintegration for biopolymers**

12 Samples Failed
- 8 papers
- 2 molded fiber
- 2 biopolymers

13 Samples Passed
- All biopolymers

*Report available upon request from funder.

2020 – 2022 Paper Study

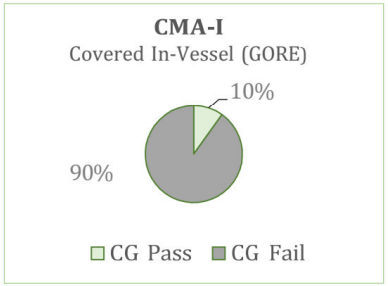
Cross Functional Working Group

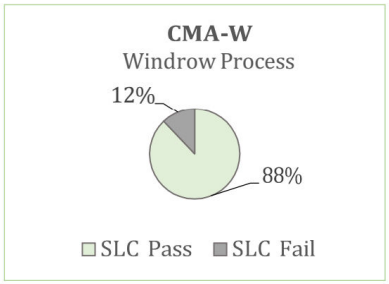
- Paper making experts
- Composting experts
- ASTM Experts
- 13 Product Manufacturers
- 91 Samples
- 3 Composting Processes
  - Covered In Vessel
  - Windrow
  - Modified Static Aerobic Pile

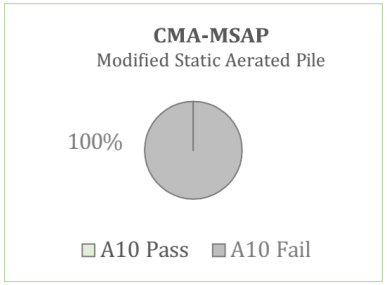
Paper Study – Results by Process

Process	C: N Ratio	% Moisture	pH	Process Days	Passed
Windrow	28	62	7.38	108	88%
Covered In-Vessel	21	50	5.06	46	10%
MSAP	18	46	6.22	120	0%

PASS/FAIL Disintegration of All Samples Across Various Processes







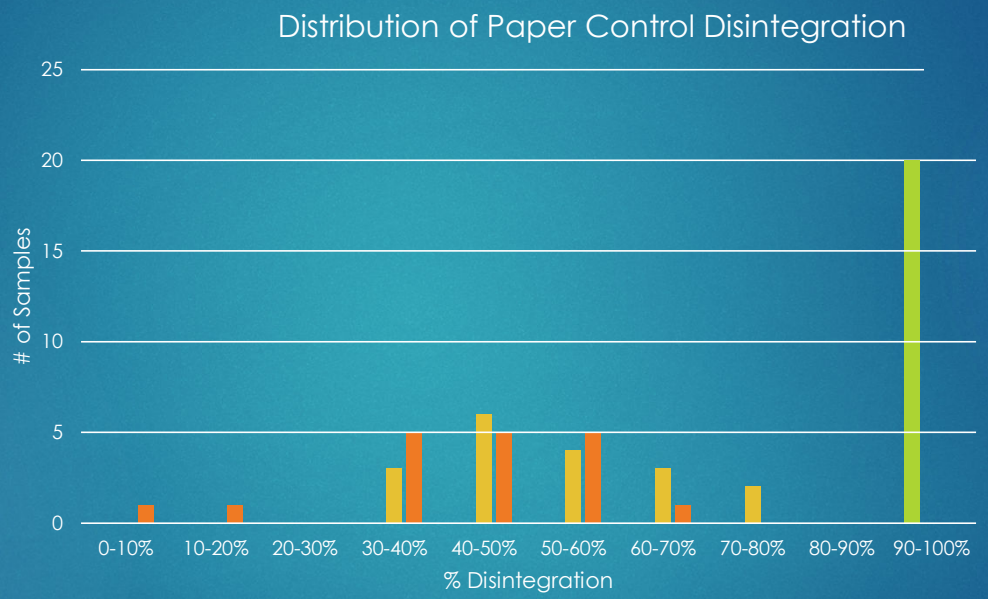
The large and diverse sample size tested in the study provided a new and unique source of data specific to field disintegration performance of PFAS-compliant papers in modern composting facilities. The results were reviewed, analyzed and discussed with all parties. As shown in the graphic summaries, results varied significantly between the three sites, where operational protocols were also reviewed and addressed (see following section).

Operational Findings

The duration of testing time and temperature in the piles were assumed to be the key factors in whether a product disintegrated prior to conducting the three field tests. In this study, those assumptions appeared to be less of a factor than other areas identified after the results and operational parameters were reviewed. The main areas observed to have the most potential impact on field disintegration of all papers appeared to be C:N ratio and moisture level of the feedstock at the inception of the test. With regard to the initial assumption that composting cycle duration held the most impact, paper

Paper Control Performance

Windrow



Factors that may account for variations in field disintegration results

- Duration of active composting cycle
- C:N Ratio
- Moisture levels
- Temperature ranges
- Variance in microbial communities present at different temperature thresholds. Mesophilic vs thermophilic.

Where are we going from here?

- Conduct collaborative studies between product designers and composting scientists to understand the gaps
- After two years of preparation, submitted ASTM D34 solid waste systems Work Item # 85822 based on our data and experience. We encourage compost manufacturers, materials specialists and solid waste professionals to join us!
- CMA is convening a National Strategic Plan for Compostables **(FutureSearch)** led by acclaimed organizational and systems experts with project anchored in 30+ major compost manufacturers' participation.

Myth 2: If an item passes in one type of composting system, it will pass in any of them

DEBUNKED

Myth 3: PLA doesn't break down

- Hundreds of tests
- Ingeo PLA is CMA's positive control
- Coming soon: Ingeo PLA will be substrate accepted

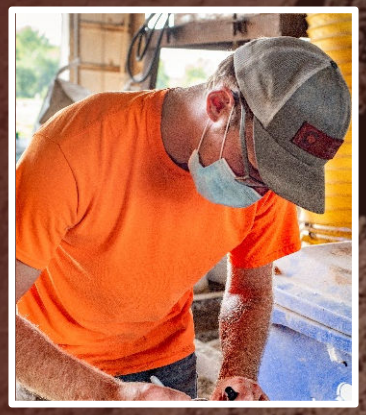
Ingeo PLA as CMA Positive Control

- 53 Ingeo PLA Controls
- Nine different tests
- Across 3 processes
- Covered In Vessel (1 facilities)
- Aerated Static Pile (2 facilities)
- Windrow (2 facilities)
- ALL showed disintegration of >95%.
- No failures.

Myth 3: PLA doesn't break down

DEBUNKED

WHAT IS CMA?

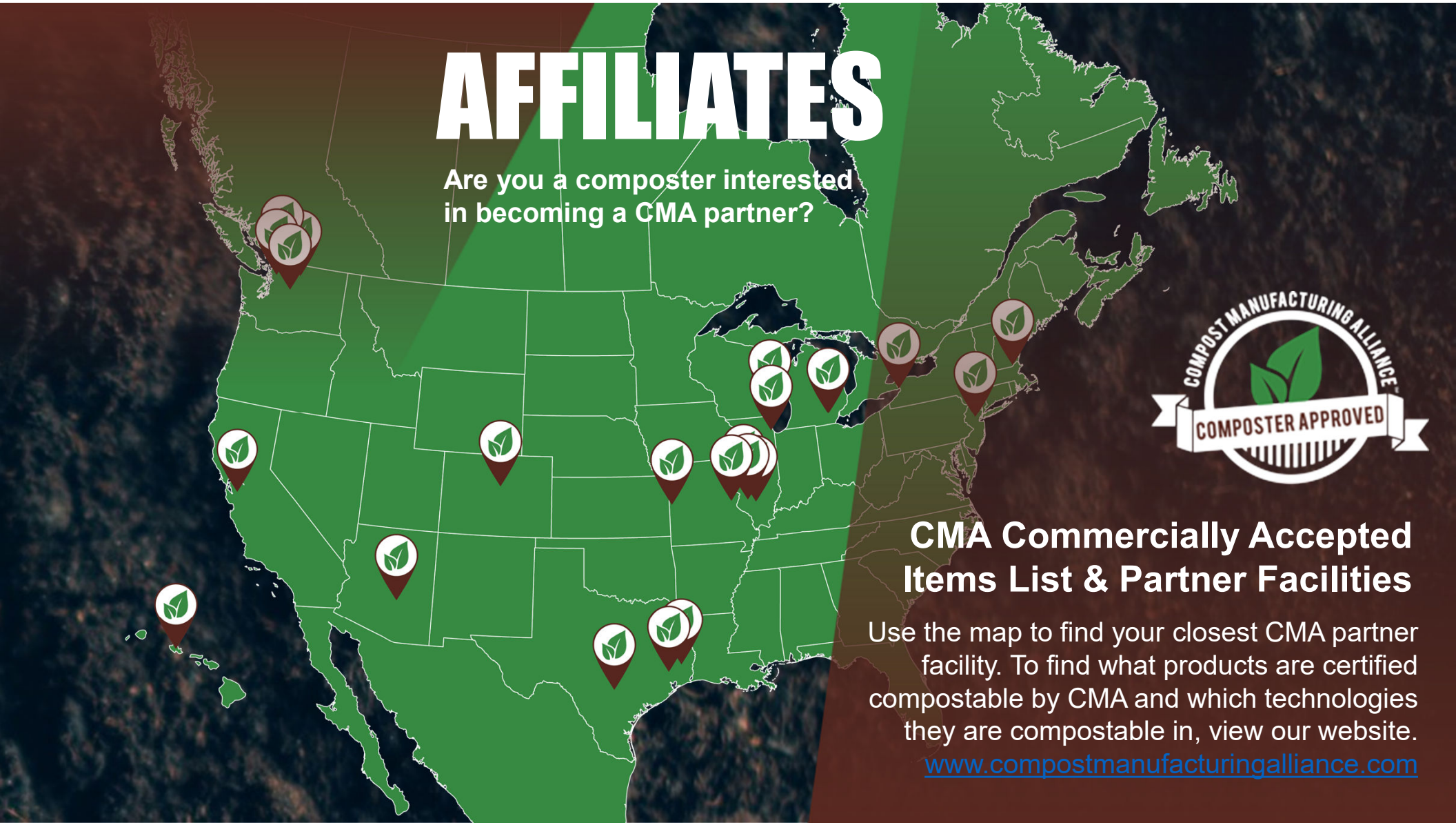


COMPOST MANUFACTURING ALLIANCE

COMPOSTER APPROVED

Third-Party Compostable Products Certification

Connecting the **Supply Chain** → to the **Compost Piles**


AFFILIATES
Are you a composter interested in becoming a CMA partner?
COMPOST MANUFACTURING ALLIANCE
COMPOSTER APPROVED
CMA Commercially Accepted Items List & Partner Facilities
Use the map to find your closest CMA partner facility. To find what products are certified compostable by CMA and which technologies they are compostable in, view our website.
www.compostmanufacturingalliance.com

Contaminants in compost are costly!

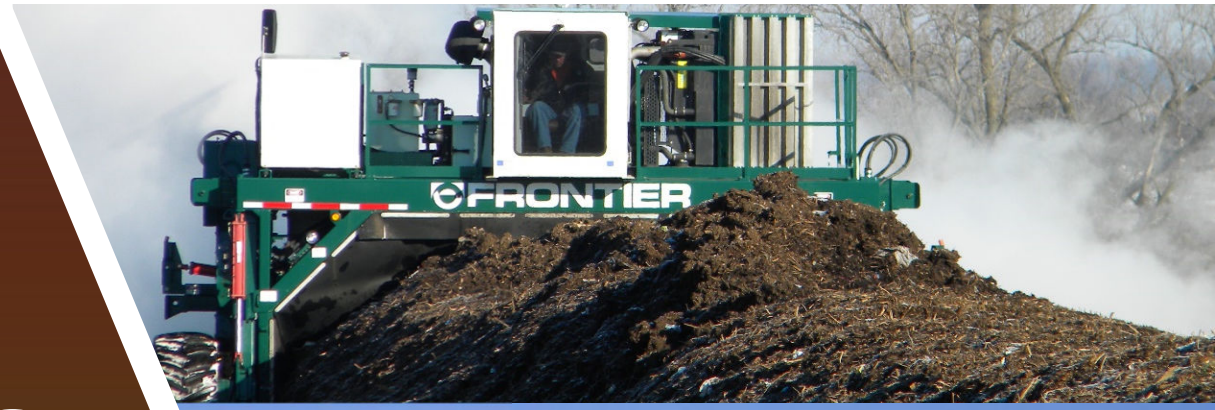
Compost manufacturers **must** be involved in understanding the products designed for their facilities.

CMA PROCESS TECHNOLOGIES

Windrow (CMA-W)

Covered In-Vessel (CMA-I)

Aerated Static Pile (CMA-A)



LAB AND FIELD CONDITIONS DIFFER

COMPOSTER APPROVED

LAB DISINTEGRATION CONDITIONS

- "Ideal" temperature, moisture
- 180 days biodegradation/ 84 days disintegration
- Checks germination in resulting compost
- 90% pass criteria

REAL WORLD FIELD CONDITIONS

- Highly variable temperature (range) and moisture (30-60%)
- Varying duration, as short as 4 weeks
- Varying 'pass' criteria

PREREQUISITES FOR CERTIFICATION

COMPOST MANUFACTURING ALLIANCE
COMPOSTER APPROVED

BIOPOLYMERS AND BLENDS (CUTLERY, PLA STRAWS, COMPOSTABLE CLEAR CUPS)

EN13432 (TUV) or ASTM D6400 passing results (must include metals, biodegradation, phytotoxicity, disintegration, spectral analysis)

PFAS/total fluorine < 100 ppm

COATED FIBERS, PAPERS, PAPERBOARDS, MULTI-LAYER SUBSTRATES

ASTM D6868 passing results (coatings must pass biodegradation)

PFAS/total fluorine < 100 ppm

SINGLE LAYER PAPERS/WOOD PRODUCTS

Substrates will be reviewed and advised upon on case-by-case basis (napkins, wood stir sticks, etc.)

PFAS/total fluorine < 100 ppm


COMPOST MANUFACTURING ALLIANCE
COMPOSTER APPROVED
PFAS
FLUORINATED
CHEMICALS
POLICY
Foodservice
Packaging
Effective January 1, 2021, Any items in these categories that are on the acceptance list will be taken off.
• Items confirmed to contain > 100 ppm total fluorine
• Any items that have not been responded to with the requested documentation

TESTING PROCESS

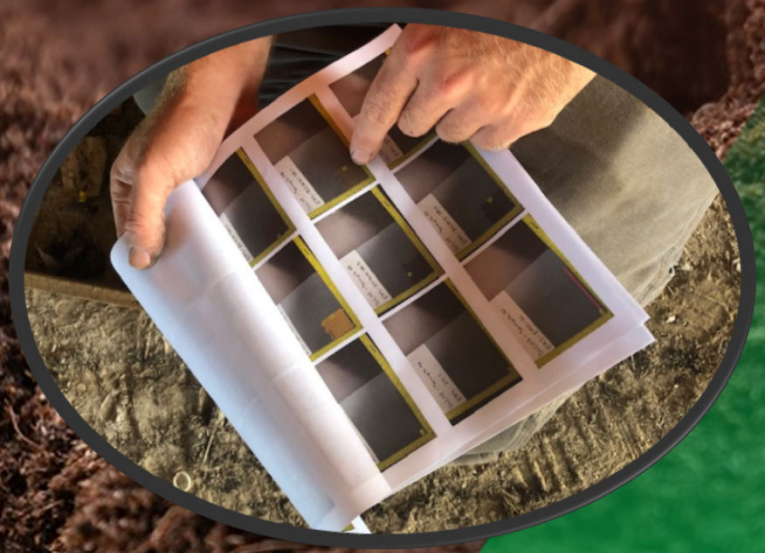
COMPOST MANUFACTURING ALLIANCE
COMPOSTER APPROVED

Visual data is recorded and logged

Samples are placed in nylon bags

80% Feedstock

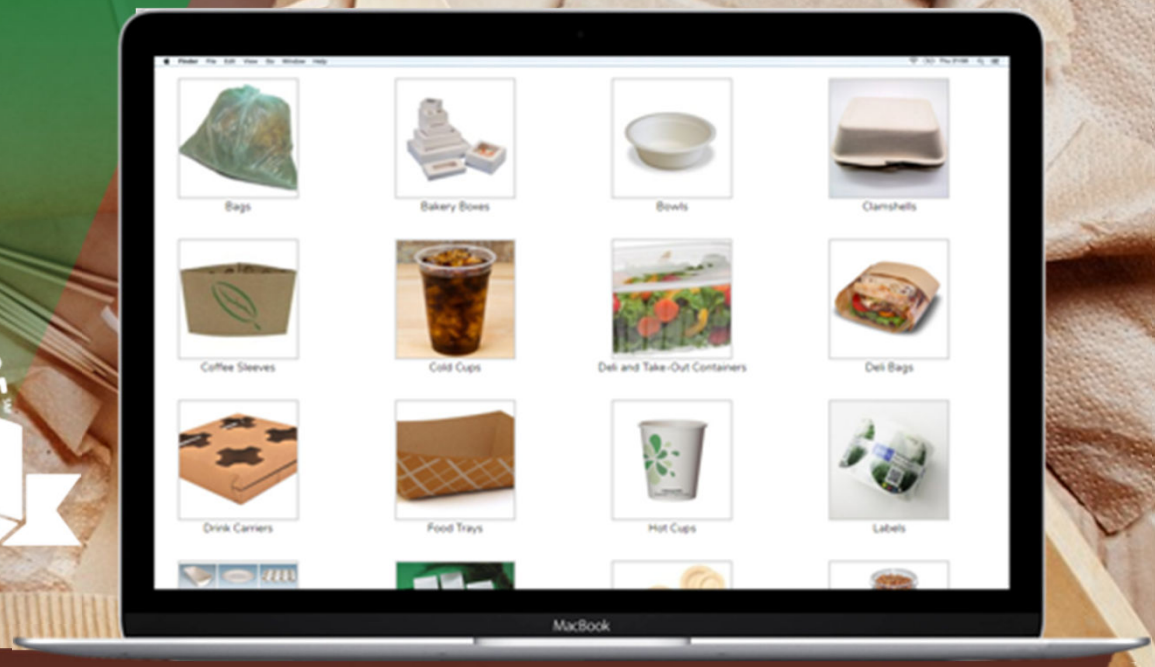
20% Products




COMPOST MANUFACTURING ALLIANCE
COMPOSTER APPROVED
FRAGMENTS
ARE PULLED
AND BAGGED
SOLID
WASTE

Web-based Acceptance Lists (by process) for FW/YW Programs:
Products that **passed** field testing *and* have met ASTM pre-requisites for each process.

COMPOST MANUFACTURING ALLIANCE
COMPOSTER APPROVED



WWW.COMPOSTERAPPROVED.COM

PLASTIC Sources in Compost Streams and Drivers

COMPOSTER APPROVED

Sorting confusion

Culture of convenience

Food TV shows

Food Preservation Improvements

“Look A-likes”

COMPOSTER APPROVED

CMA and BPI Certified Compostable

Not Compostable

Polyethylene Produce Bags

Oxo-Biodegradables


GOAL
CMA works to ensure collective investments are **connected**
Citizens/Sustainability Groups
Community Members
Capacity/Infrastructure
Composters
Cities, Haulers
Outreach, Collection
R&D, Product Development
Product Manufacturer
COMPOST MANUFACTURING ALLIANCE
COMPOSTER APPROVED

CONTACT US

Susan Thoman
Compost Manufacturing Alliance
Managing Director
susan@composterapproved.com
206.755-8309

From:	Geoff Woolley
To:	Organics
Cc:	Samantha Davies; Gary Bilbro
Subject:	Public Meeting Notice: AB 1201 (Ting, Chapter 504, Statutes of 2021) Public Workshop Comments
Date:	Monday, November 6, 2023 2:14:25 PM
Attachments:	image001.png

[[EXTERNAL]]

Dear CalRecycle Team,

We extend our gratitude for hosting the workshop on November 1, 2023, and for affording us the opportunity to express our thoughts on AB1201. At EcoSafe Zero Waste, we are dedicated to fostering successful composting practices, ensuring the disposal of uncontaminated food waste, and promoting environmentally responsible solutions. We are particularly appreciative of the efforts made by CalRecycle to address this crucial matter.

As a certified compostable film manufacturer, we take immense pride in providing high-quality compostable film products to our customers. We currently sell thousands of compostable bags across California and throughout the United States. Our commitment to environmental sustainability is reflected in the stringent certification standards we adhere to (certified by the Biodegradable Products Institute and the Compost Manufacturing Alliance), making our products easily identifiable and truly compostable.

We recognize the challenges posed by look-alike products in the market, which can lead to confusion and compromise the effectiveness of composting efforts. To address this concern, we propose that SB54 be prioritized ahead of AB1201. By mandating that only third-party certified products are allowed to be sold, we can ensure that composters have access to reliable, properly labeled compostable items. This approach will not only support composters but also contribute significantly to the overall success of composting initiatives in California.

CalRecycle, as the governing body, should make it so that we, including composters, don't have to worry about identification by enforcing SB54 ahead of AB1201. If 80% of composters won't accept our compostable bags because composters can't identify them, it is a huge problem for us when our bags end up in landfill as we spend a lot of time, money, and energy certifying our products.

Food waste collection is a massive cultural change, and we are one of the private companies assisting distribution companies and cities with the expertise on how to do it well. We suggest prioritizing accepting compostable products like compostable bags that ensure food waste is recovered and not disposed of. In our 20 years of experience, we know it is true that waste generators are more participatory when compostable bags (labeled, green, and transparent) are used in food scrap collection programs. We are more than happy to provide our expertise to help assist in this transition.

Through our extensive product range and educational training programs implemented across the distribution supply chain, we have actively assisted Californians in maintaining clean green bins. By using our compostable bags, individuals and businesses alike have reduced the frequency of bin cleaning, leading to significant water conservation.

Additionally, our products eliminate the need for harsh cleaning chemicals, thereby keeping harmful toxins out of the waste stream and further promoting environmental safety.

We agree that bifurcation is not the answer as it is already difficult to enforce 3 bin collection streams. In that sense, we need a better solution, and that is to use products that help food waste collection (like our bags).

Once again, we appreciate CalRecycle's dedication to addressing the challenges associated with composting and waste management. We remain committed to working collaboratively to create a cleaner, greener future for California.

Thank you for your time and consideration.

Warm regards,

Geoff Woolley
President
EcoSafe Zero Waste Inc. / EcoSafe Zero Waste USA Inc.

t: +1(604)-230-7029 | toll free: +1(855)-495-4959
Website | LinkedIn | Twitter | Facebook | Instagram

From:	Morgan, Cara@CalRecycle
To:	Organics
Subject:	FW: Introduction Follow up: Beyond Plastic LLC
Date:	Saturday, November 4, 2023 9:40:20 AM
Attachments:	Outlook-usqvmaxk.png PHA is natural Published Manuscripts.pdf

Sent to me after the 1201 workshop.

From: Fred Pinczuk <fred@beyondplastic.com>
Sent: Friday, November 3, 2023 1:18 PM
To: Morgan, Cara@CalRecycle <Cara.Morgan@CalRecycle.ca.gov>
Cc: Paula Treat <mslobby@earthlink.net>; Alex Delnik <alex_delnik@yahoo.com>
Subject: Introduction Follow up: Beyond Plastic LLC

[[EXTERNAL]]

Dear Mrs. Morgan,

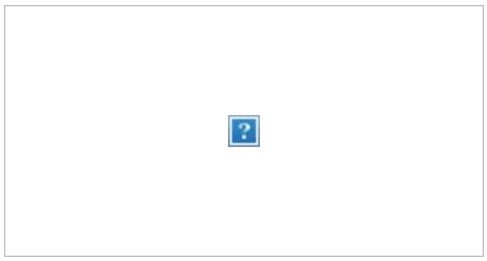
I hope this message finds you well. It was a pleasure meeting you in person during the AB1201 Panel held this past Wednesday. I wanted to take a moment to follow up on our brief conversation.

First and foremost, drawing from my extensive experience of over 25 years within the plastic packaging industry, it is clear that our sector has, unfortunately, overused and misused the term "Compostable" to the point of exhaustion. This parallels the regrettable outcome of the California ban on the labeling of "Biodegradable" products.

The term "compostable," originally intended to describe the compatibility of materials with composting facilities, no longer aligns with the actual requirements and assurances that these materials need to meet. They must seamlessly integrate into the composting processes, adhere to specific timelines, and, crucially, avoid the generation of microplastics that can directly impact our food chain. It is evident that relying solely on a lab-designed ASTM standard falls short of ensuring these crucial criteria are met.

Moreover, the industry's widespread misuse of the term "biopolymer" further exacerbates the situation, as companies often prioritize marketing their products without due consideration for their environmental impacts. For instance, the case of the Coke Plant Bottle exemplifies this issue.

Ironically, the European Union faced similar challenges, prompting them to suspend the use of "compostable" plastic packaging in 2019. This decision was driven by the recognition that the industry needed to address these concerns and rectify the way these terms are applied and understood.



Biobased, biodegradable and compostable plastics

The EU is addressing the sourcing, labelling and use of bio-based plastics, and the use of biodegradable and compostable plastics.

environment.ec.europa.eu

PHA plastics, or Polyhydroxyalkanoates, are often referred to as "Nature's Plastic." Are remarkable materials produced in nature by countless bacteria found in nearly all ecosystems with a unique ability to consume a wide range of biomass and biogas. From food waste, to used vegetable oils, to sugars. And most excitingly, biogas such as CO2 and Methane can be a food source for bacteria to produce PHA. . Both of these gasses are labelled as direct contributors to global warming.

PHA serves as a natural energy storage method for these bacteria, and the conversion into a polymer requires no secondary external processes. Unlike PLA, PHA doesn't rely on heavy metal catalyzers or the need for complex reactors.

As a result, PHA possesses a unique natural ability to reintegrate into the environment in a manner similar to a sheet of newspaper. There's no requirement for specific conditions, chemical recycling, or elevated temperatures for PHA to naturally biodegrade. It is important to emphasize that we do not advocate or advertise PHA's natural biodegradability as a license for the industry, manufacturers, or consumers to engage in irresponsible disposal practices. Instead, it should serve as a safety net in the worst-case scenario. PHA does not generate or build toxic microplastics, even when exposed to our most sensitive environment, out coastlines and oceans.

Our commitment lies in promoting responsible practices such as the collection, separation, and recycling of PHA. Extensive studies have shown that PHA can be identified and separated within industrial conditions with a remarkable accuracy rate of 99.8%. Additionally, PHA is compostable under all conditions and systems, eliminating the need for specialized industrial digesters or specific atmospheric conditions to ensure proper and complete degradation unlike PLA.

In our ongoing efforts, we are actively collaborating with the Composting Manufacturer Association (CMA) and wholeheartedly supporting their initiatives aimed at establishing universally accepted standards for validation within the composting community. We firmly believe that the experience and expertise gained from the plastic sorting and recycling sector can be effectively leveraged to ensure a consistent supply of clean biopolymers, thereby enhancing the efficiency of composting processes and mitigating the risk of contamination.

Regrettably, the primary objective of the PHA industry, which is to replace and substitute the main

sources of plastic pollution at the state, national, and global levels, has resulted in associations with the misuse of terminology, akin to the misuse of "Biodegradable" claims..

Historically, while PHA plastics have been in existence for approximately 40+ years, their predominant application was within the medical field. However, they are now emerging as a direct replacement for traditional carbon-based petroleum-based polymers such as PP, PS, EPS, and LDPE in various applications.

Attached, you will find a third-party review and analysis highlighting the positive impact of broad PHA usage on the environment. This progress aligns with our commitment to satisfying consumer demand for packaging materials while maintaining ecological responsibility.

Therefore, we kindly request the opportunity to further educate the members on the potential of PHA plastics and to contribute to the efforts required to establish a circular economy rooted in sound scientific principles, rather than being subjected to bans merely due to association with misconceptions.

It is essential to note that the PHA plastic production industry represents a high-tech sector at the forefront of efforts to reduce and eliminate plastic pollution. However, in the State of California, despite its global significance, the adoption and utilization of this technology have been constrained in part by the prohibition on labeling PHA-made products as "Biodegradable." This has had practical consequences, such as our inability to sell and ship our products on Amazon in California, even though we were the first manufacturer to produce a 3D flexible filament made of PHA in the world that is in fact 100% biodegradable and compostable.

China is currently leading the way with a 55% share in the production of this material, followed by Europe, with the United States lagging far behind.

Furthermore, I encourage you to explore the publicly available information through the GO!PHA non-profit organization.

Thank you for your attention and consideration.

Sincerely

Fred D Pinczuk
Beyond Plastic LLC
Chief Technical Officer
fred@beyondplastic.com

www.beyondplastic.com

+1 (404) 849 0211

NATIONAL STEWARDSHIP ACTION COUNCIL℠
ADVOCATING FOR AN EQUITABLE, CIRCULAR ECONOMY

P.O. Box 498
West Sacramento, CA 95691
(916) 217-1109
nsaction.us

November 2, 2023

Attention: Organics Team
California Department of Resources Recycling and Recovery (CalRecycle)
1001 I Street, Sacramento, CA 95812
Sent via email to Organics@CalRecycle.ca.gov

RE: AB 1201 Organic Waste Bifurcation Feasibility Determination

Dear CalRecycle Organics Team,

The National Stewardship Action Council (NSAC) is a 501(c)(4) non-profit organization comprised of governments, non-government organizations, businesses, and consumers with the vision for the United States to attain an equitable, circular economy, an economic system that designs out waste and pollution, keeps materials in use, and regenerates natural systems. We appreciate the opportunity to provide feedback on the Organic Waste Bifurcation Feasibility Determination as required by AB 1201 (Ting).

Bifurcation of California's organic waste system to collect organic waste that is not acceptable compost feedstocks under the National Organic Program (NOP) separately from organic waste that is acceptable under the NOP would be extremely costly, inefficient, and impractical. Furthermore, even if we were to spend the time and money to bifurcate the two separate streams, we see no responsible end market for the new, segregated stream that includes compostable plastics in California.

The feasibility study does not include any review of the collection system and whether the bifurcated collection of organic waste is even feasible, which we would argue is not without a monumental increase in costs and complexities. Additionally, compostable plastics are indistinguishable from the conventional, fossil-fuel derived plastics, which will result in the stream that accepts compostable plastics likely being riddled with contamination, increasing costs and potentially jeopardizing whatever end market was being utilized.

For these reasons, we strongly oppose the bifurcation of California's organic waste management system to ensure we do not unnecessarily create inefficiencies and increase costs.

Respectfully,

Jordan Wells

Jordan Wells
Director of Advocacy and Communications

November 8, 2023

California Department of Resources Recycling and Recovery
VIA: organics@calrecycle.org

Re: Public Meeting Notice: AB 1201 Discussion Paper

To Whom It May Concern:

Thank you for the opportunity to provide comments on the discussion paper issued by CalRecycle on the topic of the feasibility of implementing a bifurcated system for compost processing in California.

CJ Biomaterials is a leading producer of polyhydroxyalkanoates, or PHAs. PHAs are a type of biopolymer that can serve as an alternative to traditional fossil-based plastics for use in foodservice ware and other single-use applications. Although there are many end-of-life scenarios that serve PHA-based products, composting presents as the most efficient, appropriate, and climate-positive pathway for PHA-based foodservice ware and in other products and packaging used for collection and diversion of organics from landfills.

We are concerned that AB 1201 creates a situation in California where compostable plastic packaging will be banned from the market in the state. We urge CalRecycle to consider adopting regulations that will provide a regulatory pathway to allow for the adoption of a bifurcated system for managing certified compostable plastics. In the meantime, efforts are underway to update the national regulations (NOP standards) and if these efforts are ultimately successful there may no longer be a need or interest in using a bifurcated system for compost streams. Until then, it is imperative that CalRecycle keep the door open for compostable plastic alternatives to plastic single-use packaging in applications where there are simply no suitable alternative material types that will not be destined for landfill.

We are happy to see that a significant number of respondents to CalRecycle 's composter survey indicated that implementing a bifurcated system would be feasible (***25 percent responding 'yes' to feasibility; an additional 12 percent responding 'yes' but with cost concerns***). The cost concerns expressed by a small portion of these respondents in the 'yes' group can be alleviated by the funding that will be available through SB 54. SB 54 will result in a producer responsibility system with a PRO that will collect fees on covered products sold in the state. These funds will then be made available for infrastructure improvements for the processing of these covered products, including costs for expanded composting infrastructure.

Considering the critical need to address the prohibitive language in AB 1201, and in light of the funding opportunities afforded through SB 54, we urge a finding of feasibility by CalRecycle and adopt the needed regulatory framework to support this finding. In doing so, CalRecycle will prevent certified compostables from being excluded from the future market in California. We

look forward to supporting the Department's efforts in any way we can and welcome staff to reach out with any questions.

Sincerely,

Lauren Scott
Director of Corporate Affairs
CJ Biomaterials
916.616.0831 / lauren.scott@cj.net