

HUMBOLDT COUNTY GROWERS ALLIANCE

September 30, 2019

Dear Humboldt County Planning Commissioners,

Please accept the following letter on behalf of the Humboldt County Growers Alliance. We are the voice of Humboldt County's legal cannabis industry advancing the interests of more than 230+ responsible plant-touching cannabis businesses in Humboldt County. Built on a foundation of fifty years of experience and innovation, HCGA members are statewide leaders for environmentally and ethically produced cannabis, who are working together to preserve, protect, and enhance Humboldt County's world-renowned cannabis industry.

In May 2019, the Humboldt County Board of Supervisors voted to place a moratorium on hemp cultivation in the County while directing staff to develop possible alternatives for the regulation of hemp.

On September 23, 2019, County staff published a proposed draft ordinance that would authorize the cultivation of hemp in several designated areas. The proposed ordinance would allow unlimited-scale hemp cultivation with minimal regulation in the AE-zoned "Industrial Hemp Management Zone" (IMHZ), and also provide alternative routes to compliance for small (less than 5,000 square foot) hemp farms on RA-zoned parcels, as well as farms that have qualified for cannabis permits under the County's cannabis land use ordinance (CCLUO).

In May, HCGA supported a moratorium on hemp cultivation due to concerns regarding pollen drift, land use, and environmental impact. At the time, HCGA strongly opposed any allowance for "pollinating hemp" that would risk the pollination of feminized cannabis farms, but remained open to the cultivation of feminized CBD-hemp pending further consideration and research.

Over the past four months, new information on the emerging hemp industry has come to light, and HCGA has had the opportunity to conduct additional research and discussions with stakeholders. After reviewing the proposed hemp ordinance with these considerations in mind, HCGA has identified several reasons for concern:

- **Hemp cultivation in Humboldt County, particularly on large commercial scales, poses substantial risks to the Humboldt County cannabis industry via pollen drift, pesticide drift, pests, and watershed resource usage.** Based on new information from the emerging hemp industry regarding the genetic instability of hemp cultivars, we believe the risks of pollination are significant even if hemp cultivation is limited to feminized strains intended for CBD production only.

- **By contrast, hemp cultivation offers little potential economic benefit for Humboldt County, whether conducted on a large commercial or small craft scale.** Hemp is vastly overproduced on a nationwide scale, leading to plummeting prices, and Humboldt County lacks the geography or climate to compete in a national and international hemp market.
- **An industrial hemp program is a poor use of Humboldt County public resources.** Significant regulation would be required to mitigate potential impacts of hemp cultivation, requiring additional County resources. Additionally, it is unclear whether a County hemp ordinance could be tiered to the existing cannabis EIR, potentially requiring additional expenditure of resources for CEQA compliance.
- **Current hemp law, regulation, and industry is immature, and existing hemp law contains major gaps.** Federal and state hemp regulation remain very early in their respective development processes, with USDA, FDA, and California state regulations likely to remain under development for the next 12-18 months.

Considering these conclusions, HCGA respectfully submits the following positions on hemp cultivation in Humboldt County:

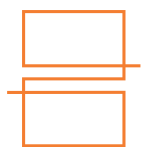
- HCGA opposes the cultivation of hemp on unlimited scale in the IMHZ.
- HCGA is neutral on the craft cultivation of hemp as an “accessory use” under 5,000 square feet, and on the cultivation of hemp under a CCLUO permit. However, we question whether cultivation of hemp on such small scales is commercially viable, and believe that incentivizing cottage cannabis cultivation would be more likely to offer viable opportunities for small farmers.

The reasoning behind each of these positions is discussed in more detail below.

Cross-Pollination from CBD-Hemp Is a Significant Risk Despite Feminized Seed

When the County last considered hemp regulations in May 2019, there was strong opposition to industrial hemp produced for seed or fiber due to the release of pollen by male hemp plants. Male hemp plants utilized in seed and fiber farms release pollen, which is widely distributed by wind, seeding feminized cannabis crops that are often located many miles away. In order to produce significant THC, these feminized cannabis crops cannot be pollinated and seeded; if pollination occurs, they lose their cannabinoid potency and are essentially unmarketable. Even more concerning, pollination risks the loss of Humboldt County’s world-leading and irreplaceable cannabis genetics, which are the keystone of farmers’ ability to compete as craft cultivators in an increasingly commoditized cannabis marketplace.

During discussions in May, HCGA remained open to the possible cultivation of flowering CBD-hemp in the County, under the theory that feminized CBD-hemp does not pose risks of pollination. Based on new information over the last several months, however, we have new concerns about the potential for even “feminized” CBD-hemp to pollinate cannabis crops, particularly when grown on larger commercial scales.



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It has now been widely reported that high-CBD hemp cultivars typically suffer from unstable genetics due to their relatively short history of cultivation, and that stable genetics are unlikely to be developed for several years. These unstable genetics - in addition to creating a substantial risk that “hemp” strains will ultimately test high in THC - increase the likelihood of rogue male or hermaphrodite plants. Hemp seeds that are theoretically “feminized” are producing, at the very high end, 98% female plants, and often substantially less.

On small scales, it may be possible for a motivated farmer to closely monitor their cultivation area and eliminate rogue male plants. On larger scales, however, the cost and difficulty of removing large numbers of males increases substantially, resulting in a major risk of pollen release. These risks increase for inexperienced hemp farmers who lack a history with commercial cannabis cultivation and who may not possess the knowledge or experience to prioritize removal of males. Due to hemp’s federal legal status, hemp cultivation has attracted large numbers of such inexperienced farmers.

Is the IMHZ Close Enough to Cannabis Production to Risk Pollen Drift?

The primary hemp cultivation zone identified in the proposed ordinance, the IMHZ, appears at first glance to be relatively distant from major cannabis cultivation areas in Southern Humboldt. However, on closer view, it seems that certain cultivation areas are close enough to the IMHZ - and the potential radius of hemp pollen dispersal is large enough - that IMHZ hemp would pose a significant risk of pollinating cannabis farms.

There is little scientific study of hemp pollen, and it’s not possible to say with certainty how far hemp pollen travels. The scientific literature that does exist, however, suggests a cautionary approach. A 2003 study in the Journal of Industrial Hemp reaches several conclusions:

- There is no consensus on the extent of hemp pollen drift.
- Hemp is a wind-pollinated plant and prevailing winds exert a strong influence on how far pollen travels. Depending on winds, pollen drift distance can vary by five times or more.
- Male hemp plants release relatively large quantities of pollen.
- Studies have found that wind-pollinated plants are capable of distributing pollen at extreme distances: up to 1,000km according several studies cited in the journal article.

In practice, there is wide variation in practical suggestions for hemp pollen buffer zone, underlining the extent to which scientific consensus is lacking. One publication suggests the risk of pollination “should be negligible” beyond 10 miles. Other publications suggest a safe buffer distance of up to 30 miles. In Pueblo, Colorado, 12-18% of cannabis crops were seeded by hemp, despite an attempted four-mile buffer zone has now been determined to be inadequate.

These estimates place cannabis farms well within the zone potentially affected by the IMHZ. The eastern edge of the IMHZ is located approximately six miles from Carlotta, where a number of cannabis farms are located. Carlotta marks the western edge Highway 36, which contains a high density of cannabis farms. Prevailing winds in August blow from the northwest to the southeast, carrying pollen directly from northwestern IMHZ regions to southeastern cannabis cultivating regions on Highway 36, the Mattole Valley, and the Eel River. Given that hemp is a wind-pollinated plant, these prevailing winds pose the worst-case scenario for cannabis farms anywhere in the vicinity of the IMHZ and would pose unacceptable risks to the County's cannabis industry.

Hemp Poses Other Risks for the Humboldt Cannabis Industry

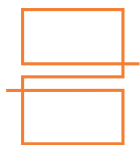
Beyond pollen, hemp cultivation - including cultivation of feminized CBD hemp - poses other risks to Humboldt's cannabis industry.

- **Pests** - additional hemp cultivation, particularly when conducted on large monoculture hemp farms, provides additional opportunity for pest infestations which can then be transferred to cannabis crops.
- **Pesticide drift** - all California cannabis products are tested to strict standards, but state law currently contains no requirement to test hemp products for pesticides or other contaminants. Although the state formally prohibits many pesticides for use on hemp, the lack of final testing creates a potential lack of accountability for hemp farmers as compared with cannabis farmers. If pesticides are used on hemp farms, pesticide drift risks contamination of cannabis crops and the state-mandated destruction of cannabis batches that fail testing.
- **Watershed caps** - the proposed hemp ordinance would count hemp farms towards the County's cap on cannabis permits in each watershed. Given questions regarding the market viability of Humboldt hemp production, which are discussed below, it is important to consider whether hemp cultivation can be considered the highest and best use of Humboldt's limited watershed resources.

Hemp Is Unlikely to Offer Economic Opportunity in Humboldt

Given the risks that hemp production poses to Humboldt's cannabis economy, it should be considered whether hemp cultivation would offer parallel benefits to Humboldt farmers. Hemp is sometimes portrayed as a highly lucrative crop that offers comparable opportunity to cannabis without regulatory burden or federal legal restrictions associated with cannabis. With the benefit of post-Farm Bill data on hemp cultivation, however - and considering Humboldt County's geography and climate - hemp does not seem likely to offer economic benefit to the county.

Hemp production occurs on vastly larger scales than cannabis production. According to CDFA data, in July 2019, there were 624 acres of cannabis production licensed in California. By contrast, there are currently 7,000 acres of hemp production registered in Kern County alone, 60,000 acres of hemp in Oregon, and half a million acres nationwide. This year's market price for CBD-hemp is predicted to fall to as low as \$10-\$20/pound, and supply is estimated at eight times demand.



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In the context of an oversupplied national commodity market, Humboldt hemp production is unlikely to be commercially viable. Even in the flat agricultural areas included in the IHMZ, there is insufficient land to produce at adequate scale compared with the Central Valley or Midwest, and any plausible scale could only be achieved through massive consolidation of land holdings. The coastal climate in IMHZ areas is also less than ideal for hemp production and carries a high risk of mold and mildew.

These practical concerns are even more applicable to small hemp farms of less than 5,000 square feet, as contemplated under the “accessory use” designation in the proposed ordinance. We strongly support measures to decrease barriers to entry and provide economic opportunity to small and cottage farmers, but we do not see hemp cultivation as a plausible solution. At current estimated prices of \$18,000/acre, a 5,000 square foot farm could expect total yearly revenue of just \$2,000. While craft hemp produced by a skilled farmer would potentially sell at a premium, an \$18,000/acre baseline leaves little room for commercially viable production on such a small scale. Additionally, while the prospect of non-commercial hemp cultivation for medicinal purposes has been raised, it should be noted that state law requires hemp to be cultivated on at least one-tenth of an acre, or 4,356 square feet. Hemp cultivation on plots this large would be difficult to justify under fully non-commercial goals. Given these challenges, we believe that ongoing conversations regarding reducing barriers to cottage cannabis cultivation - rather than opening up new small-scale hemp cultivation - are more likely to be successful in providing opportunity for small farmers.

Regulation of Hemp Is Not a Good Use of Humboldt County Resources

Any mitigation of the hemp industry’s potential impacts would require expenditure of public resources which are difficult to justify given the challenges associated with growing hemp in Humboldt County.

Most notably, it is questionable whether the County’s hemp ordinance would survive CEQA challenge, and there is a strong possibility that additional resources would be required to ensure CEQA compliance.

Additionally, any measures taken to mitigate the risks identified above would require significant resources to enforce. These would include rules related to enforcement of feminized seed, pollen drift, pesticide use, water use, THC content, and cultivation method requirements.

Federal and State Hemp Regulation are Immature

At the federal level, a first wave of proposed draft hemp regulations has yet to be developed by either the USDA (for cultivation) or FDA (for products meant for human consumption). On the state level, California has yet to submit its state hemp cultivation plan to federal regulators, technically a prerequisite to legal hemp cultivation under the 2018 Farm Bill. Additionally, California state law and regulation remain at an early stage of development. Notably, state legislation to authorize the inclusion of CBD in products for human consumption - AB 228 - did not pass in 2019 and remains under development.

As state and federal law continue to develop, and as the hemp industry begins to mature, substantial new issues are likely to become apparent. The hemp industry's legal and market turbulence is nearly a match for the cannabis industry, with both industries moving from illegality to billion-dollar markets in a matter of months, and would raise an entirely separate but equally complex set of potential issues for the County.

Hemp-related developments likely to emerge over the next 12-18 months include:

- USDA cultivation regulations.
- Federal transportation regulations.
- State and federal regulation regarding THC testing.
- California state legislation on the inclusion of CBD in consumable products.
- FDA regulation on the inclusion of CBD in consumable products.
- Submission of a California state hemp cultivation plan to the federal government, with potential approval, rejection, or request for modification.
- Consideration of testing requirements for pesticides, microbials, and other contaminants, including whether CBD products should be tested to identical standards as cannabis products.
- Continued instability in hemp markets.

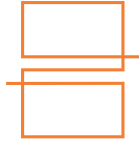
Policy Recommendations

Based on the identified risks and the lack of potential benefit to hemp cultivation in the County, **HCGA strongly opposes the largely unregulated hemp cultivation on unlimited scale proposed in the IMHZ**, which poses the greatest risk of pollen contamination, pesticide drift, pests, and watershed impact.

We are less concerned about the potential impacts of small hemp farms in RA-zoned properties, and would consider supporting this proposal if we believed it would achieve its intended effect to provide legitimate economic opportunities to displaced legacy cannabis farmers. However, we urge a serious accounting as to whether craft hemp production at less than 5,000 square feet is commercially viable given the current state of the hemp market, and encourage consideration of alternative policies that would incentivize viable cottage cannabis cultivation.

Similarly, we are less concerned about the relatively small-scale hemp production under the CCLUO, but question the reasoning for cultivating hemp rather than cannabis once a local cannabis land use permit has already been obtained.

More than anything, we urge a precautionary approach to hemp cultivation in Humboldt County. Since staff and the Board of Supervisors last considered a hemp ordinance four months ago, much more information on the hemp industry has come to light, including reporting on widely unstable hemp genetics and a ten-fold increase in the area of U.S. hemp cultivation. We expect that additional information will continue to come to light in the coming months and years. Given these risks and uncertainties, we urge the County to tread carefully on policy decisions that may not be possible to reverse once set in motion,



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and to take a precautionary approach to a crop that poses many risks and few likely benefits to our county's economic future.

Sincerely,

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