**Draft Mitigation Options for 1,3-D Pilot Projects**

DPR is creating a Pilot Program with options to produce emissions reductions comparable to tarping (60% reduction). As described below, some of the options are combinations of several methods, and may be most appropriate to address larger application sizes. The pilots will be located near DPR air monitoring sites in Shafter, Parlier, and Delhi. They will begin in the summer of 2020 and will run for one year.

1. **Use of TIF tarps**
This method would require the entire application field to be covered with totally impermeable film (TIF). In practice, growers are likely to use current method code 1242 or 1247.
2. **Expanded buffer zones**
This would require buffer zones of up to ¼ or ½ mile, and would mirror the work presented at the October 2019 workshop.
3. **Pre-application moisture content of 70% field capacity**
Irrigation 2-3 days prior to fumigation would increase moisture 3-9” below the surface. The relatively high soil moisture in this zone crease a barrier to the movement of 1,3-D, thereby slowing emissions.
4. **2.5” water seal via post-application sprinkler irrigation**
As soon as possible after completing the fumigation, begin sprinkler irrigation. This creates a zone of high moisture near the soil surface, slowing emissions.
5. **Deeper injections (24”, rather than 18”)**
1,3-D would be injected to a depth of at least 24 inches below the soil surface. The greater depth of injection increases the amount of time the fumigant spends in the soil and reduces emissions.
6. **Deeper injections, and pre-application moisture content of 70% field capacity**
This option combines the emission reductions from options 3 and 5, and may be necessary for larger field sizes.
7. **Deeper injections, and 2.5” water seal via post-application sprinkler irrigation**
This option combines the emission reductions from options 4 and 5, and may be necessary for larger field sizes.
8. **50% TIF cover of the field**
The approach is less expensive than requiring TIF throughout the entire field while still garnering substantial emissions reduction. For many field sizes, this is likely to require additional mitigation measures (see 9-11).
9. **50% TIF cover of the field, and 24” injection**
This option combines the emission reductions from options 5 and 8, and may be necessary for larger field sizes.
10. **50% TIF cover of the field, and pre-application moisture content of 70% field capacity**
This option combines the emission reductions from options 3 and 8, and may be necessary for larger field sizes.
11. **50% TIF cover of the field, 24” injection, and pre-application moisture content of 70% field capacity**
This option combines the emission reductions from options 3, 5, and 8, and may be necessary for larger field sizes.
12. **24” application with pre-application moisture content of 70% field capacity and 2.5” water seal via post-application sprinkler irrigation**

This option combines the emission reduction from options 5, 6, and 7. This options provides the greatest emission reduction of all listed options.