Choosing a Methyl Bromide Alternative Program

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As the cost of methyl bromide continues to increase, interest in alternatives also increases. Although most everyone has or should have tried at least one alternative by now, many have been doing so only on a small scale. You may now want to think about larger scale trials as you gain more experience using these alternatives. Don’t expect 100% success the first time or probably even the second or third time. There is a learning curve to all the alternatives and most of us learn best by our mistakes. This is no different. Someone asked me the other day……..just what is the best alternative? So I posed that question to Dr. Jim Gilreath, a consultant with PhytoServices, who has probably done as much work with alternatives as anyone in the state. His response was……there is no one best alternative. The choice is going to vary depending on the field history and the current and past pest problems. There may also be other factors unique to your situation that you need to take into account. These could include location, in terms of setbacks from buildings or residences if you are in an urban area, etc. So, let’s assume you have all three pest problems: nematodes, soil borne diseases and weeds (particularly nutsedge). Let’s take a look at three possible alternatives:

1. **A combination of Telone C-35 and K-Pam or Vapam in the bed.** Let’s assume that you are using standard LDPE polyethylene mulch. You would first inject Telone C-35 at about 26 gallons per treated acre in the bed with your gas rig. What about PPE? As long as there is no fertilizer hopper on the unit with people on it, it should not be a problem. (Another option to avoid excessive PPE is to put it out with gas knives on the pre-bedder.) You then follow this with Vapam or KPam at a rate of 75 or 60 gal/A, respectively, placed 3 inches in the bed top. This can be done using a new piece of equipment built by Mirusso Enterprises which consists of a bedder with a precision application system of up to 8 coulters (depending on bed width) mounted in the bedder. This gives more uniform application and thus more consistent results than past application methods. Follow this immediately with your plastic rig.

2. **Broadcast application of Telone II followed by Chloropicrin (and K-Pam or Vapam in some situations).** Broadcast application of Telone II would eliminate the PPE requirement for everyone
except the tractor driver. (Please note that even though the driver may be in an enclosed cab, if the label specifies a particular respirator, this must still be worn.) Broadcasting Telone II at about 18 gallons per acre may be advantageous for nematode problems as it will give nematode control over the whole field. It will not, however, give significantly improved weed control in the row middles of the finished field. After waiting 7 days, follow with your bedding equipment and apply 120 lbs of chloropicrin in the bed. If you know you have significant nutsedge problems, you can either use Sandea (make sure it’s labeled for the crop you are growing) after the nutsedge emerges through the plastic or use K-Pam or Vapam in the bed as described above in option #1.

![Nutsedge emerging through plastic.](image)

For either of the previous alternative programs, if you are using high barrier film, you may be able to reduce the rate of fumigant but there has not been sufficient research done to give exact rates. You may have to trial this on your own farm under your own soil, pest and cultural conditions. Please remember that for success with reduced rates you MUST adjust your application equipment by using smaller diameter tubing between the manifold and the chisels to compensate for reduced flow capacity and to increase back line pressure. If you do not, you will not get uniform application and coverage and will have problems later on.

3. **A third alternative to consider is methyl iodide or Midas.** This is currently being trialed under a non crop-destruct Experimental Use Permit (EUP). Even though the price currently seems quite high, price is relative in comparison to the cost of other materials, which may change. The rate will vary depending upon the type of plastic you use and your pest pressure. One benefit is that Midas can be applied through your standard fumigation equipment and this one product alternative has shown good results in field trials. The PPE required is a half face respirator for all those in the field.

Remember that these are only examples of alternative programs that have been successful in trials. You may have other programs that work for you. Work with your supplier on rates and application equipment or modifications to help insure a successful experience.

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