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University of Arizona

COLLEGE OF AGRICULTURE
AGRICULTURAL EXTENSION SERVICE

**SPRAY COMPATIBILITY CHART OF
INSECTICIDES AND FUNGICIDES**

BY FRED DRAPER

PUBLISHED BY

University of Arizona
TUCSON, ARIZONA

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GENERAL CONSIDERATIONS

Spraying to be most effective must be done thoroughly and at the proper time. Due to the size of the area to spray or because of climatic conditions, it is frequently necessary to complete spraying in a short period of time. The advantage of mixing two insecticides or an insecticide with a fungicide from the standpoint of economy of time and labor can readily be seen. There are mixtures, however, which are unsafe and **positively dangerous** to use.

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SPRAY COMPATIBILITY CHART OF INSECTICIDES AND FUNGICIDES

	Standard Arsenate of Lead	Basic Arsenate of Lead	Nicotine Sulphate	Lime Sulphur	Bordeaux	Sulphur (Wettable)	Soap Oil Emulsion	Non-Soap Oil Emulsion	Soap
Standard Arsenate of Lead (Acid)	.....	.....	Safe	No.	Safe	Safe	No.	No.	No.
Basic Arsenate of Lead (Neutral)	.....	.....	Safe	Safe	Safe	Safe	Safe	Safe	Safe
Nicotine Sulphate	Safe	Safe	.....	Safe	Safe	Safe	Safe	Safe	Safe
Lime Sulphur	No.	Safe	Safe	.....	No.	Safe	No.	No.	No.
Bordeaux	Safe	Safe	Safe*	No.	.....	Safe	No.	Safe	No.
Sulphur (Wettable)	Safe	Safe	Safe	Safe	Safe	.....	No.	No.	Safe
Soap Oil Emulsion	No.	Safe	Safe	No.	No.	No.	.....	Safe	.....
Non-Soap Oil Emulsion	No.	Safe	Safe	No.	Safe	No.	Safe	.....	Safe
Oil Soap	No.	Safe	Safe	No.	No.	Safe	.....	Safe	.....

*Without Soap.

KEY TO CHART

Safe—Indicates that the two may be mixed.

No—Indicates that it is NOT SAFE to mix.

Read down the left hand column and across the top vertical column to find those combinations which are safe.

UNIVERSITY OF ARIZONA
College of Agriculture, Agricultural Extension Service
P. H. Ross, Director

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GENERAL RULES FOR MIXING

1. In general, materials which are acid in nature (acid arsenate of lead) cannot be combined with materials which are alkaline (soap or lime).
2. Bordeaux combines well with most materials except soap or lime.
3. Oil sprays cannot be used with lime or materials containing lime.
4. Lime and arsenate of lead should be mixed only in summer strengths.
5. Black leaf 40 may be safely used with most other spray materials.

Standard or acid arsenate of lead is the form in common use. If you are not sure which you have, it will be safest to consider it the "acid form."

Use recommended formulas: Solutions too weak are ineffective; solutions made too strong are wasteful and liable to injure plants to which they are applied. The dilution or strength of each individual material in a mixture will usually be the same as if it were being used by itself. **Measure or weigh** each ingredient carefully and then carefully measure the water.

Choose the right material: Insecticides and fungicides are effective only when they are chosen to fit the insect or disease to be controlled.

1. Standard and basic arsenate of lead are **stomach poisons** for **chewing insects only**.
2. Nicotine sulphate, lime sulphur, soap-oil and non-soap oil emulsions and soap are **contact insecticides** and are effective against soft bodied and sucking insects.
3. Bordeaux, sulphur, and lime-sulphur are used chiefly as **fungicides** to combat **fungus diseases**.