THE EFFECT OF BURNING OF THE PLANT RESIDUAL ON SEED GERMINATION AND THE GROWTH OF THE WEED SEEDLING

MARYAM BEHDAD[1], MOHAMMAD REZA BAZIAR[2*], ROYA MAHMOUDIEH[3], BEHROOZ SETAYESH[4]
[1,3] Agriculture Jahad Institute of Technical and Vocational Higher Education, Islamic Republic of Iran
[2-] A Member of the Scientific Board of Islanic Azad university of Fasa, Iran
4-Inviromental expert, Isfahan DOE(Department of inviromental)
[*] Corresponding Author. Email: baziar.m@gmail.com

Introduction

On of the most important problems in the agriculture of our country is the plant residual burning that beside of its negative effect on environment is influence on seed germinating and growth of weeds. Plant residual burning is very useful in areas which perform two cultures In one years. The influence of plant residual burning is in tow ways thermal stress and chemical changes which produce from burning.The temperature between 80 – 120 C° is enough to destroy the hard skins of the weed seeds, that to absorb water by seed.

Materials and Methods

In Vitro , the effect of different high temperatures is studied on germinating, and the effect of plant residual burning was studied on germinating and growth of seedlings.The weed seeds which are used as following:Amaranthus, Portula, Chenopodium, Plantago, Avena ad Khakshir.

In Vitro were the treatments as following:

1) Control
2) Put the seeds in burning straw for five minutes.
3) Put the seeds in the smoke of burning five minutes.
4) Put the seeds in oven with 70 C° for five minutes.
5) Put the seeds in oven with 100 C° five minutes.
6) Put the seeds in oven with 130 C° five minutes.
7) Put the seeds in pots and 10 g the ash in every pot.

Every treatment was in 7 replications.In vivo, the effect of wheat, residual burning on germinating and growth of six weed seeds as mentioned.The pots were in 20 cm diameter fill of mixed soil (loam, sand and rotted manure) (1-1-1.5). Thirty seeds of every weed put on surface of the pot soil. Treatments were as following:

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6) Put the seeds in oven with 130 C° for 5 minutes.
7) Put 10 g ash in every pot.

Results and Discussion

In general, the plant residual burning is effective on weed control and managing. All Treatment s were effective on the percent of seed germinating on all six species of weeds, and it was significant. Especially, smoke and ash treatments had best result, but the fire treatments and temperatures ones were less. The smoke and ash treatments increase the percent of germinating of Plantago and Avena. In general, the results show that burn of wheat residual reduce seriously the germinating. The seeds that are on surface of filed will destroy more than seeds under surface.

References

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